



INTEGRATED FLUID POWER SOLUTIONS

THE WORLD OF ASSEMBLY MACHINERY



EMB-FS® CONNECTION TECHNOLOGY

THE WORLD OF ASSEMBLY MACHINERY



EASY, QUICK AND RELIABLE

The innovative 'Form & Seal' system was designed for the connection of tubes without specific tube preparation and finishing. It boasts the advantages of a welding system but the number of necessary single parts is reduced to the minimum, optimising the cost-performance ratio and minimising the system costs. The system can also be used for nearly all applications as we provide a comprehensive product portfolio of DIN 2353, ISO 8434-1 tube fittings. The EMB-FS® system and assembly procedure guarantees you minimum tube stress, fast assembly and maximum retention forces.

Improve productivity and keep costs down

The EMB-FS® 93 forming machine works so simply that it helps to reduce tool costs and operation time significantly. The convenient display helps to select tube sizes easily and promptly, making assembly errors impossible. The electronic power path control procedure forms standard hydraulic pipes continuously, ensuring safe tube forming. Different wall thicknesses can be processed with only one tool set, making the tool logistics easier and affordable. When a tool change is needed, this can also happen very quickly and effortlessly with the use of the bayonet catch.



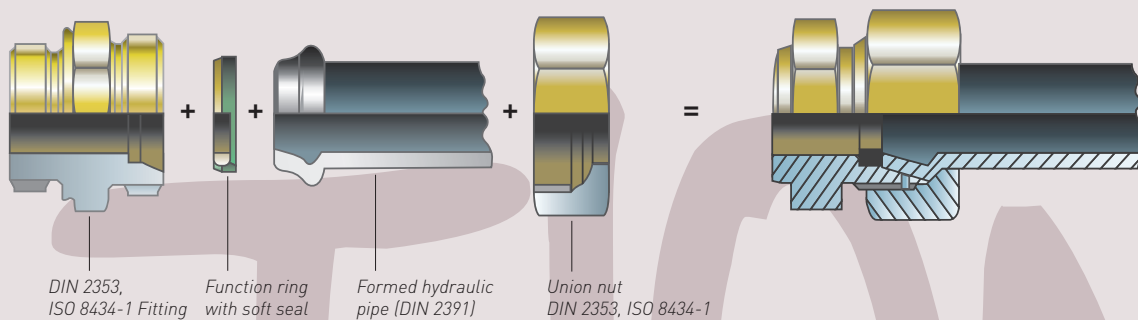
The unmatched tube connecting solution for steel and stainless steel tubes



No compromises, no difficulties

A function ring supports the final assembly. It integrates an elastomer seal into the system and protects against excessive tightening. Frictional tension between tube and fitting cone is assured with the metallic seal function. Vulcanised soft seals ensure the leak-free performance in extreme working conditions as well. Safe assembly is indicated by a clearly noticeable assembly stop.

Form & Seal hydraulic pipes with complete confidence



GATES ASSEMBLY MACHINERY – HIGH PRODUCTIVITY WHEREVER YOU NEED IT!

THE WORLD OF ASSEMBLY MACHINERY



Gates assembly machinery can help you to cut maintenance costs, boost productivity and outperform others thanks to our focus on design, innovation and top-quality materials. The range covers all your needs from workshops to mobile service operations and even on-site field crimping.

Leak-free and reliable high-performance port-to-port solutions call for superiority, both in its components as well as the self-assembly machines to put them together. Our machinery is a vital part of the Gates Integrated System Approach, making every tube connection and every hose assembly a true Gates ambassador.

Gates is the world's most trusted brand name in fluid power transmission because we pay meticulous attention to quality standards in all cutting ring assembly, flaring, tube end forming, tube manipulation, cutting, crimping and marking, and conduct extensive quality testing before shipment.



CUTTING RING ASSEMBLY & FLARING MACHINERY

Today, cutting ring and flaring are still the main technologies used to connect tubes. To guarantee leak-free results, the joint procedure requires reliable machines that support the quality of the connection. Thanks to the Gates assembly machines' accurate processes, a minimum of the operator's individual intervention is required, reducing the need for manual justifications as well as process control.

OVERVIEW



Opticam 34 Cutting Ring Assembly Machine

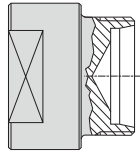
Hydraulic operating machine with SPC unit (storage programmable control) for both pre-assembly and final-assembly of cutting rings. The fully automated assembly procedure ensures total supervision and absolute control of the chosen kind of assembly, preventing mistakes and eliminating additional maintenance and complaints. It is the customer's warranty for 100% leak free connections.

| Technical Specifications Opticam 34 | | CAM 34 | | CAM 34 power pack | |
|-------------------------------------|-----------|-----------------|--------------|-------------------|--------------|
| | | 400 V / 3-phase | | 400 V / 3-phase | |
| working pressure | max. bar | 400 | | 400 | |
| assembly pressure | max. tons | 20 | | 20 | |
| hydraulic unit | ltr./min | 3 | | 3 + 1.25 | |
| electric drive | Hz | 50 | | 50 | |
| dimensions (mm) | H | 300 | | 620 | |
| | W | 610 | | 260 | |
| | D | 625 | | 550 | |
| weight | ca. kg | 85 | | 50 incl. oil | |
| cylinder movement | max. sec. | 2,4 | e.g. Ø 12 mm | 1,9 | e.g. Ø 12 mm |
| order code | | CAM 34 | | CAM 34 DP | |

| Tools | CAM 34 |
|--------------------------------|--------|
| Pre-assembling counter plate | OPT/E |
| Pre-assembling socket | OPTI |
| Final assembling counter plate | OPT/F |
| Final assembling socket | OPTI/F |

CUTTING RING ASSEMBLY & FLARING MACHINERY

THE WORLD OF ASSEMBLY MACHINERY



VM Pre-Assembly Bodies

Bodies for the turning-angle-controlled serial assembly of cutting ring fittings in the pre-assembly adaptor VM with subsequent final assembly.

| Technical Specifications VM Pre-Assembly Bodies | | | | |
|---|---------|------------|----|----|
| Description | tube OD | G | L | S |
| VM 6-L | 6 | M 12 x 1.5 | 28 | 14 |
| VM 8-L | 8 | M 14 x 1.5 | 28 | 14 |
| VM 10-L | 10 | M 16 x 1.5 | 28 | 14 |
| VM 12-L | 12 | M 18 x 1.5 | 28 | 19 |
| VM 15-L | 15 | M 22 x 1.5 | 33 | 19 |
| VM 18-L | 18 | M 26 x 1.5 | 36 | 24 |
| VM 22-L | 22 | M 30 x 2 | 37 | 27 |
| VM 28-L | 28 | M 36 x 2 | 40 | 32 |
| VM 35-L | 35 | M 45 x 2 | 42 | 41 |
| VM 42-L | 42 | M 52 x 2 | 42 | 50 |
| VM 6-S | 6 | M 14 x 1.5 | 28 | 14 |
| VM 8-S | 8 | M 16 x 1.5 | 28 | 14 |
| VM 10-S | 10 | M 18 x 1.5 | 28 | 14 |
| VM 12-S | 12 | M 20 x 1.5 | 28 | 19 |
| VM 14-S | 14 | M 22 x 1.5 | 33 | 19 |
| VM 16-S | 16 | M 24 x 1.5 | 33 | 24 |
| VM 20-S | 20 | M 30 x 2 | 37 | 27 |
| VM 25-S | 25 | M 36 x 2 | 39 | 32 |
| VM 30-S | 30 | M 42 x 2 | 42 | 41 |
| VM 38-S | 38 | M 52 x 2 | 42 | 50 |

CUTTING RING ASSEMBLY & FLARING MACHINERY



UP/M Unipress Cutting Ring Assembly

Hand assembly machine allowing easy cutting-ring pre-assembly and flaring 37° systems. The light-weight, user-friendly design makes it perfect for on-site applications and repairs.

Utilises same tools as electro-hydraulic machines.

Tube flaring for 37° Gates-EMB ABO and SAE system.

| Technical Specifications UP/M Unipress | | UP/M |
|--|--------|-----------------|
| | | manually |
| tube range cutting ring assembly | mm Ø | 6 to 42 |
| tube range flaring | mm Ø | 6 to 22 |
| maximum pressure | bar | 230 |
| | H | 260 |
| dimensions (mm) | W | 190 |
| | D | 400 |
| weight | ca. kg | 15 |
| order code | | UNIPRESS M |

| Tools | UP/M |
|------------------------------|----------------------|
| Pre-assembling counter plate | OPT/E |
| Pre-assembling socket | OPTI |
| Flaring device | BÖRDELVORSATZ UPM622 |
| Flaring tools for ABO 37° | UNI-BBO |
| Flaring tools SAE system | UNI-BB |

CUTTING RING ASSEMBLY & FLARING MACHINERY

THE WORLD OF ASSEMBLY MACHINERY



UP 3 Unipress Cutting Ring Assembly & Flaring Machine

Universal combination machine for cutting ring pre-assembly with manual or automatic pressure setting and tube flaring for steel and stainless steel tubes with an outer diameter from 6 to 42 mm.

| Technical Specifications UP 3 Unipress | | UP 3 |
|--|----------|------------------------|
| | | 400 V / 3-phase |
| working pressure | max. bar | 0 to 200 |
| electric drive | Hz | 50 |
| dimensions (mm) | H | 500 |
| | W | 450 |
| | D | 650 |
| weight | ca. kg | 85 |
| order code | | UNIPRESS 3 |
| Tools | | UP 3 |
| Pre-assembling counter plate | | OPT/E |
| Pre-assembling socket | | OPTI |
| Flaring tools for ABO 37° | | UNI-BB0 |
| Flaring tools SAE system | | UNI-BB |
| Flaring tools SAE system | | UNI-BB |

TUBE END FORMING & TUBE MANIPULATION MACHINERY

Tube forming is not only one of the safest methods for the connection of leak-free hydraulic tube systems but can be used as an alternative for expensive welding procedures in many cases. The result is a huge cost reduction on both labour and system assembly cost. This supports economies of scale and provides extra time and money for further projects. Operator faults are basically excluded due to automated machine functions. Gates-EMB assembly machines are developed with individual customer needs in mind like ease of use, reliability and cost performance.

OVERVIEW



FS 93 Tube Forming Machine

The FS 93 forming machine offers fast and safe tube forming of both steel and stainless steel tubes. The forming happens in one single step with the help of the electronic power path control, reducing tool costs and operation time significantly.

Easy tube size selection via the machine display.

One tool set for different materials and tube wall thicknesses.

The bayonet catch allows very quick change of tools.

| Technical Specifications FS 93 | | FS 93 |
|--------------------------------|--------|------------------------|
| | | 400 V / 3-phase |
| electric drive | Hz | 50 |
| fuse | A | 16 |
| dimensions (mm) | H | 350 |
| | W | 760 |
| | D | 830 |
| weight | ca. kg | 175 |
| order code | | FS 93 UMFORMMASCHINE |

| Tools | FS 93 | |
|-----------------|-------|--------------|
| Clamping jaws | SPW | |
| Reshaping tools | FOW | |
| Function ring | FSR | Ø 6 to 42 mm |
| Back-up ring | FSSR | Ø 6 to 12 mm |

TUBE END FORMING & TUBE MANIPULATION MACHINERY

THE WORLD OF ASSEMBLY MACHINERY

Final Assembly with Function & Back-Up Ring

The FSR function ring and FSR back-up ring FSSR support the final assembly, integrating an elastomer seal into the system which protects against excessive tightening. The frictional tension between tube and fitting cone is assured with the metallic seal function. The vulcanised soft seals ensure the leak-free performance in extreme working conditions. Safe assembly is guaranteed by a clearly noticeable assembly stop. It is recommended to use FSR on tube diameters from 6 to 42 mm, FSSR alternatively from 6 to 12 mm with very thin wall thicknesses.



| Function ring FSR | |
|-------------------|-----------------------------|
| Description steel | Description stainless steel |
| FSR 6-L/S | FSR 6 L/S-1.4571 |
| FSR 8-L/S | FSR 8 L/S-1.4571 |
| FSR 10-L/S | FSR 10 L/S-1.4571 |
| FSR 12-L/S | FSR 12 L/S-1.4571 |
| FSR 15 | FSR 15 L/S-1.4571 |
| FSR 16 | FSR 16 L/S-1.4571 |
| FSR 18 | FSR 18 L/S-1.4571 |
| FSR 20 | FSR 20 L/S-1.4571 |
| FSR 22 | FSR 22 L/S-1.4571 |
| FSR 25 | FSR 25 L/S-1.4571 |
| FSR 28 | FSR 28 L/S-1.4571 |
| FSR 30 | FSR 30 L/S-1.4571 |
| FSR 35 | FSR 35 L/S-1.4571 |
| FSR 38 | FSR 38 L/S-1.4571 |
| FSR 42 | FSR 42 L/S-1.4571 |



| Back-up ring FSSR | |
|-------------------|-----------------------------|
| Description steel | Description stainless steel |
| FSSR 6 L/S | FSSR 6 L/S-1.4571 |
| FSSR 8 L/S | FSSR 8 L/S-1.4571 |
| FSSR 10 L/S | FSSR 10 L/S-1.4571 |
| FSSR 12 L/S | FSSR 12 L/S-1.4571 |



| Tools SPW | | |
|-------------|------------|-------------------|
| Description | tube OD mm | wall thickness mm |
| SPW 6L/S | 6 | 1-1.5 |
| SPW 8L/S | 8 | 1-2.5 |
| SPW 10L/S | 10 | 1-3.0 |
| SPW 12L/S | 12 | 1-3.5 |
| SPW 15L/S | 15 | 2-3.0 |
| SPW 16L/S | 16 | 2-4.0 |
| SPW 18L/S | 18 | 2-3.0 |
| SPW 20L/S | 20 | 2.5-4.0 |
| SPW 22L/S | 22 | 2-3.5 |
| SPW 25L/S | 25 | 2.5-5.0 |
| SPW 28L/S | 28 | 2.5-5.0 |
| SPW 30L/S | 30 | 3-6.0 |
| SPW 35L/S | 35 | 2.5-6.0 |
| SPW 38L/S | 38 | 3-6.0 |
| SPW 42L/S | 42 | 3-4.0 |



| Tools FOW | | |
|-----------------|------------|-------------------|
| Description | tube OD mm | wall thickness mm |
| FOW 6X1-1,5 L/S | 6 | 1-1.5 |
| FOW 8X1-1,5 L/S | 8 | 1-1.5 |
| FOW 8X2+L/S | 8 | 2-2.5 |
| FOW 10X1-1,5L/S | 10 | 1-1.5 |
| FOW 10X2+L/S | 10 | 2-3.0 |
| FOW 12X1-1,5L/S | 12 | 1-1.5 |
| FOW 12X2+L/S | 12 | 2-3.5 |
| FOW 15X2+ | 15 | 2-3.0 |
| FOW 16X2+ | 16 | 2-4.0 |
| FOW 18X2+ | 18 | 2-3.0 |
| FOW 20X2,5+ | 20 | 2.5-4.0 |
| FOW 22X2+ | 22 | 2-3.5 |
| FOW 25X2,5+ | 25 | 2.5-5.0 |
| FOW 28X2,5+ | 28 | 2.5-5.0 |
| FOW 30X3+ | 30 | 3-6.0 |
| FOW 35X2,5+ | 35 | 2.5-6.0 |
| FOW 38X3+ | 38 | 3-6.0 |
| FOW 42X3+ | 42 | 3-4.0 |

TUBE END FORMING & TUBE MANIPULATION MACHINERY



Mobilpress PB 642 Tube Bending Machine

Machine for hydraulic bending of tubes of 6-42 mm in steel St35, St37, St52 as well as stainless steel tubes. The maximum bending efficiency is 38x5 mm resp. 42x4 mm.

Three different machines are available.

- > PBEH 642 F
- > PBEH 642
- > PBM 642

| Technical Specifications PB 642 Mobilpress | | PBEH 642 F | PBEH 642 | PBM 642 |
|--|------------------------------|-----------------------------|-------------------------|--------------------|
| | | 400 V / 3-phase | 400 V / 3-phase | manual |
| operating pressure | max. bar | 250 | 250 | |
| electric drive | Hz | 50 | 50 | |
| weight | ca. kg | 70 | | |
| tube bending efficiency | mm diameter x wall thickness | 38x5 or 42x4 | 38x5 or 42x4 | |
| order code | | PRESSBIEGER PBEH 642 - F | PRESSBIEGER PBEH 642 | PRESSBIEGER PBM |

| Tools | PB 642 |
|-------------------|--------|
| Bending matrix | TPM |
| Bending wing head | TPG |

Bending Tools TPM



Bending Wing Heads TPG



| Tools TPM | | | |
|-------------|------------------|-------------------|----------------|
| Description | tube OD mm; inch | thread tube OD mm | bending radius |
| TPM 06 | 6 | | 2.0xD |
| TPM 08 | 8 | | 2.0xD |
| TPM 10 | 10 | | 2.0xD |
| TPM 12 | 12 | | 2.0xD |
| TPM 14 | 14; 1/4 | 13.5 | 2.0xD |
| TPM 15 | 15 | | 2.0xD |
| TPM 16 | 16 | | 2.0xD |
| TPM 18 | 18; 3/8 | 17.2 | 2.5xD |
| TPM 20 | 20 | | 2.0xD |
| TPM 22 | 22; 1/2 | 21.3 | 2.5xD |
| TPM 25 | 25 | | 2.4xD |
| TPM 28 | 28; 3/4 | 26.9 | 2.7xD |
| TPM 30 | 30 | | 2.5xD |
| TPM 35 | 35; 1 | 33.7 | 3.0xD |
| TPM 38 | 38 | | 2.5xD |
| TPM 42 | 42; 1 1/4 | 42.1 | 3.0xD |

| Tools TPG | |
|-------------|------------|
| Description | tube OD mm |
| TPG 6/8 | 6 + 8 |
| TPG 10/12 | 10 + 12 |
| TPG 14/16 | 14 + 16 |
| TPG 18/20 | 18 + 20 |
| TPG 22/25 | 22 + 25 |
| TPG 28/30 | 28 + 30 |
| TPG 35/38 | 35 + 38 |
| TPG 42 | 42 |

TUBE END FORMING & TUBE MANIPULATION MACHINERY

THE WORLD OF ASSEMBLY MACHINERY

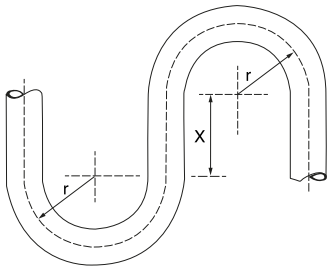


RBV 6/18 Tube Bending Device

This device comes with 6 changeable bending rollers for tubes from 6 to 18 mm.

Weight of each piece: approx. 4 kg

Ease-of-use: ideal for workshop independent, mobile bending operations.



Technical Specifications RBV 6/18

| Description | tube OD mm | gas tube | r | ~ x | ~ kg/pc |
|-------------|------------|----------|------|-----|---------|
| RBV 6/18 | 6 | | 33.0 | 35 | 4 |
| | 8 | | 34.0 | 35 | |
| | 10 | 1/8 | 35.5 | 35 | |
| | 12 | | 36.5 | 35 | |
| | 14 | 1/4 | 36.5 | 35 | |
| | 15 | | 44.0 | 38 | |
| | 16 | | 44.0 | 38 | |
| | 18 | 3/8 | 51.5 | 42 | |

CUTTING MACHINES

Gates cutters – both the hose cutters and steel tube cutters – are robust and compact machines, and distinguish themselves by their safe and high-quality cutting function. Our range of electrical cutters is all hand controlled for guided cutting thus allowing for optimal speed control and a reduction of blade damage. The blades are positioned close to the powerful motors to limit vibration which enhances the durability and reduces maintenance costs. But there is more: low energy consumption, CE compliant brake motors for 3-phase cutting machines, built-in protection, limited smoke production ... all supporting your safe working environment and personnel safety.

OVERVIEW








Unicut TC 080 Metal Saw

Unicut is a compact transportable hand circular saw for all types of metal tubes. The saw can be used for straight and mitre cuts, has an integrated automatic cooler and offers best performance for accurate cuts in order to fit tubes perfectly.

Saw blades high-speed steel with DMO surface coating.

Dimension 250 x 2.0 x 32 with 2 side holes 12/64 mm.

| cutting section | | 45° | 90° |
|---|------|-------|-------|
|  | mm Ø | 70 | 80 |
|  | mm Ø | 40 | 40 |
|  | mm | 60 | 70 |
|  | mm | 40 | 40 |
|  | mm | 65x60 | 95x60 |

| Technical Specifications Unicut TC 080 | | TC 080 | TC 080 |
|--|---------|--------------------|--------------------|
| | | 400 V / 3-phase | 220 V |
| mitre cuts | | up to 45° | up to 45° |
| electric drive | kW/Hz | 1.0/50 | 0.8/50 |
| weight | ca. kg | 71 | 71 |
| rotational speed | rev/min | 52 | 52 |
| dimensions (mm) | H | 700 | 700 |
| | W | 850 | 850 |
| | D | 450 | 450 |
| order code | | UNICUT TC 080/380V | UNICUT TC 080/220V |

| Tools | TC 080 |
|---|-----------------------|
| Saw blade for thick-walled profiles and solid materials | HSS-SÄGEBLATT 250/128 |
| Saw blade for thin-walled profiles and tubes | HSS-SÄGEBLATT 250/200 |

CUTTING MACHINES

THE WORLD OF ASSEMBLY MACHINERY



MKX 40 Hose Cutter

Heavy-duty hose cutter allowing quick and reliable production across all hose size ranges. Cuts up to 2" six spiral wire hose. The brake motor ensures the blade stops turning within 10 seconds after switch-off. For workshop professionals who want to further enhance their set-up and improve ease-of-use.

Ref: 7480-19229: 3 phase

| Technical Specifications MKX 40 | | |
|---------------------------------|-----|------------|
| | | 3 phase |
| power supply | | 380V |
| maximum capacity | WB | 2" |
| | 4SW | 2" |
| | 6SW | 2" |
| motor (kW) | | 4.6 |
| brake motor | | x |
| noise level | | 90dB |
| suction connection (mm) | | 60 |
| cutting blade | | 350x3x30 |
| dimensions (mm) | H | 430 |
| | W | 690 |
| | L | 745 |
| weight (kg) | | 75 |
| product number | | 7480-19229 |

CUTTING MACHINES



MX 30 Hose Cutter

Robust cutter for all types of workshops. Cuts up to 1.1/4" six spiral wire hose. The brake motor ensures the blade stops turning within 10 seconds after switch-off.

Ref: 7480-19191: 3 phase

| Technical Specifications MX 30 | | |
|--------------------------------|-----|------------|
| | | 3 phase |
| power supply | | 380V |
| maximum capacity | WB | 1.1/4" |
| | 4SW | 1.1/4" |
| | 6SW | 1.1/4" |
| motor (kW) | | 3.0 |
| brake motor | | x |
| noise level | | 80dB |
| suction connection (mm) | | 80 |
| cutting blade | | 275x3x30 |
| dimensions (mm) | H | 300 |
| | W | 440 |
| | L | 540 |
| weight (kg) | | 50 |
| product number | | 7480-19191 |

CUTTING MACHINES

THE WORLD OF ASSEMBLY MACHINERY



MKX 25 Hose Cutter

Compact cutting machine, perfectly suitable for the small workshop. Cuts up to 1.1/4" four spiral wire hose.

Ref: 7480-19190: 1 phase / 7480-19189: 12V

| Technical Specifications MKX 25 | | | |
|---------------------------------|-----|------------|------------|
| | | DC | 1 phase |
| power supply | | 12V | 220V |
| maximum capacity | WB | 1.1/4" | 1.1/4" |
| | 4SW | 1.1/4" | 1.1/4" |
| | 6SW | -- | -- |
| motor (kW) | | 2.0 | 2.2 |
| brake motor | | -- | -- |
| noise level | | 93dB | 90dB |
| suction connection (mm) | | 40 | 40 |
| cutting blade | | 250x2.5x40 | 200x1.6x30 |
| dimensions (mm) | H | 365 | 540 |
| | W | 567 | 510 |
| | L | 470 | 400 |
| weight (kg) | | 29 | 20 |
| product number | | 7480-19189 | 7480-19190 |

ACCESSORIES



MKX Suction Unit

MKX Suction Unit allowing you to safely remove rubber particles and smoke released during the hose cutting operation. The particles are sucked into the container removing any hindering smell. The spark arrester between the cleaner box and the suction hose also ensures that glowing particles and rubber waste are immediately removed, thus minimizing the risk for fire.

Depending which MKX-cutter you have selected you can select the right adaptor to connect your cutter to the MKX suction unit:

- > MKX40 adaptor ring: 80 mm Ø connection (8000-10395)
- > MKX30 adaptor ring: 50 mm Ø connection (8000-10368)
- > MKX25 adaptor ring: 40 mm Ø connection (8000-10375)

Ref: 8000-10367

CRIMPING MACHINES

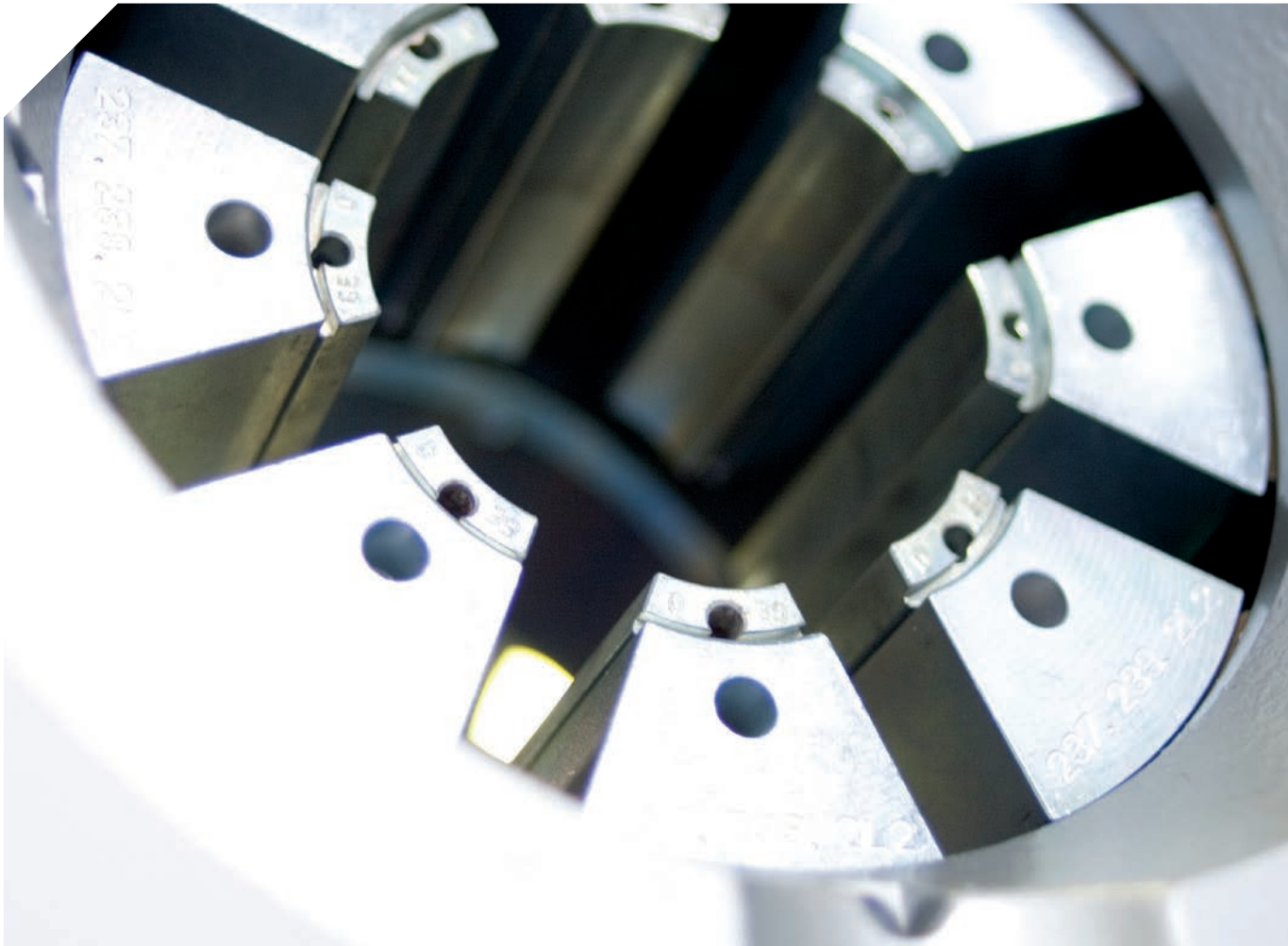
With Gates crimpers safe, fast and efficient assembly of hydraulic hoses and couplings is made simple. All machines are custom-designed to work with a well-defined range of Gates hoses and couplings allowing production of factory-quality assemblies fully complying with European Directives and the most stringent international standards. In addition, our self-assembly machinery offers the highest care and personal safety in your working environment (from workshops to mobile service operations and even on-site field crimping).

Lower maintenance costs from grease-free machines

Gates MCX crimpers cut your maintenance costs by running grease-free. These crimpers come with a unique, self-lubricating slide bearing system that cuts out metal-to-metal abrasion between master dies and the crimper head and cuts friction by 20%. No need for greasing also brings you a safer and cleaner working environment.

Easy-to-use products improve productivity

All Gates applications are designed to ensure fast, comfortable handling and we have incorporated this also in our crimper program. In our electrical-driven crimpers, a standard built-in storage rack lets you choose dies quickly, and die sets are easy-to-reach and organised logically. Field service crimping devices are portable and come with a detachable die storage case, solid and durable handles and resistant rubber protection layers. Our ergonomic design is highly valued both for its contribution to higher productivity figures and its fast approval by local Health and Safety Executives.



CRIMPING MACHINES

THE WORLD OF ASSEMBLY MACHINERY

OVERVIEW



MCX 50

Full-range crimper (up to 2" six spiral wire hose) for the professional workshop. Optional foot pedal to enable hands-free operation. Equipped with a die set storage rack allowing for logically organised die storage within easy reach of the operator, thus speeding up die selection and assembly.

Ref: 7480-19188: 3 phase

| Technical Specifications MCX 50 | | |
|---------------------------------|------------------|--------------|
| | | 3 phase |
| power supply | | 380V |
| maximum capacity | WB | 2" |
| | 4SW | 2" |
| | 6SW | 2" |
| crimping force (ton) | | 280 |
| motor (kW) | | 5.5 |
| die set | | 239*/237-Dxx |
| cycle time (sec) | | 18 |
| die storage | | rack |
| dimensions (mm) | H | 1400 |
| | W | 580 |
| | L | 610 |
| weight (kg) | | 410 |
| product number | | 7480-19188 |
| options | marking dies | x** |
| | quick die change | x |
| | back stop | 7480-19198 |
| | foot pedal | 7480-19199 |

* Only with intermediate dies.

** Marking die in type 239 only up to 239-D37.

CRIMPING MACHINES



MCX 30

Compact, operator-friendly machine to crimp the complete Gates range up to 1.1/4". Equipped with a die set storage rack allowing for logically organised die storage within easy reach of the operator, thus speeding up die selection and assembly. Also available for mobile service with separate DC power pack.

Ref: 7480-19187: 3 phase / 7480-19186: 1 phase / 7480-19186: 12V

| Technical Specifications MCX 30 | | | | |
|---------------------------------|------------------|------------|------------|------------|
| | | DC | 1 phase | 3 phase |
| power supply | | 12V | 220V | 380V |
| maximum capacity | WB | 1.1/4" | 1.1/4" | 1.1/4" |
| | 4SW | 1.1/4" | 1.1/4" | 1.1/4" |
| | 6SW | 1.1/4" | 1.1/4" | 1.1/4" |
| crimping force (ton) | | 180 | 180 | 180 |
| motor (kW) | | 1.8 | 2.2 | 3 |
| die set | | 239-Dxx | 239-Dxx | 239-Dxx |
| cycle time (sec) | | 41 | 41 | 20 |
| die storage | | rack | rack | rack |
| dimensions (mm) | H | 550 | 790 | 790 |
| | W | 475 | 600 | 600 |
| | L | 395 | 550 | 550 |
| weight (kg) | | 125 | 170 | 170 |
| product number | | 7480-19185 | 7480-19186 | 7480-19187 |
| options | marking dies | x* | x* | x* |
| | quick die change | x | x | x |

* Marking die in type 239 only up to 239-D37.

CRIMPING MACHINES

THE WORLD OF ASSEMBLY MACHINERY



MCX 25

Compact crimper for low-volume production. Ideal as starter machine or for small workshops. Crimps no-skive GlobalSpiral couplings up to 1" and no-skive MegaCrimp® couplings for wire-braid hose up to 1.1/4". Equipped with a die set storage rack allowing for logically organised die storage within easy reach of the operator, thus speeding up die selection and assembly. Also available for mobile service with separate DC power pack.

Ref: 7480-19184: 3 phase / 7480-19183: 1 phase / 7480-19182: 12V

| Technical Specifications MCX 25 | | | | |
|---------------------------------|------------------|------------|------------|------------|
| | | DC | 1 phase | 3 phase |
| power supply | | 12V | 220V | 380V |
| maximum capacity | WB | 1.1/4" | 1.1/4" | 1.1/4" |
| | 4SW | 1" | 1" | 1" |
| | 6SW | -- | -- | -- |
| crimping force (ton) | | 130 | 130 | 130 |
| motor (kW) | | 1.8 | 2.2 | 3 |
| die set | | 239-Dxx | 239-Dxx | 239-Dxx |
| cycle time (sec) | | 39 | 39 | 19 |
| die storage | | rack | rack | rack |
| dimensions (mm) | H | 550 | 790 | 790 |
| | W | 475 | 600 | 600 |
| | L | 395 | 550 | 550 |
| weight (kg) | | 115 | 160 | 160 |
| product number | | 7480-19182 | 7480-19183 | 7480-19184 |
| options | marking dies | x* | x* | x* |
| | quick die change | x | x | x |

* Marking die in type 239 only up to 239-D37.

CRIMPING MACHINES



MCX 20

Powerful, lightweight, portable hand-operated crimper, ideal for field service operations. Comes with separate box, designed to contain complete set of dies. Crimps no-skive GlobalSpiral couplings up to 1" and no-skive MegaCrimp® couplings for wire-braid hose up to 1.1/4".

Ref: 7480-19181

| Technical Specifications MCX 20 | | |
|---------------------------------|--------------|------------|
| | | manual |
| power supply | | -- |
| maximum capacity | WB | 1.1/4" |
| | 4SW | 1" |
| | 6SW | -- |
| crimping force (ton) | | 90 |
| die set | | 263-Dxx |
| die storage | | box |
| dimensions (mm) | H | 370 |
| | W | 450 |
| | L | 470 |
| weight (kg) | | 35 |
| product number | | 7480-19181 |
| options | marking dies | x* |

* Marking die in type 263 only up to 263-D35.



MC 1001

Lightweight, portable crimper designed for reliability in field service. Comes with separate box, designed to contain complete set of dies. The pneumatic version has a foot-operated air pump. Crimps no-skive MegaCrimp® couplings for wire-braid hose up to 1".

Ref: 7480-19164: manual machine / 7480-19165: air operated machine

| Technical Specifications MC 1001 | | | |
|----------------------------------|-----|------------|-------------|
| | | manual | pneumatic |
| power supply | | -- | 7bar/100psi |
| maximum capacity | WB | 1" | 1" |
| | 4SW | -- | -- |
| | 6SW | -- | -- |
| crimping force (ton) | | 27 | 27 |
| die set | | MC1000-Dxx | MC1000-Dxx |
| die storage | | box | box |
| dimensions (mm) | H | 460 | 460 |
| | W | 280 | 280 |
| | L | 390 | 390 |
| weight (kg) | | 24 | 22 |
| product number | | 7480-19164 | 7480-19165 |

CRIMPING MACHINES

THE WORLD OF ASSEMBLY MACHINERY

DIE SELECTION MATRIX

Current Machinery

| -size | Hose | | | | | Coupling | Die | MC1001 MC1000-Dxx | MCX20 MCX 263-Dxx | MCX25 MCX 239-Dxx | MCX30 MCX 239-Dxx |
|-------|-------|-------|-------|-------|--------|----------|------|----------------------|----------------------|----------------------|----------------------|
| -4 | M6K | M5K | M4K | M3K | | G | D21 | x | x | x | x |
| | CM2T | G2 | G1 | TH8 | TH7 | G | D21 | x | x | x | x |
| | G3H | GTH | | ACR | | G | D21 | x | x | x | x |
| | 2JC | 1JC | GP80+ | GP60 | GP40 | G | D21 | x | x | x | x |
| -5 | | M5K | M4K | M3K | | G | D22 | x | x | x | x |
| | CM2T | G2 | G1 | | TH7 | G | D22 | x | x | x | x |
| | | GTH | | | | G | D22 | x | x | x | x |
| | 2JC | 1JC | GP80+ | GP60 | GP40 | G | D22 | x | x | x | x |
| -6 | | M5K | M4K | M3K | | G | D22 | x | x | x | x |
| | CM2T | G2 | G1 | TH8 | TH7 | G | D22 | x | x | x | x |
| | G3H | GTH | | ACR | | G | D22 | x | x | x | x |
| | 2JC | 1JC | GP80+ | GP60 | GP40 | G | D22 | x | x | x | x |
| | EFG6K | EFG5K | EFG4K | | | GS | D33 | | x | x | x |
| -8 | | M5K | M4K | M3K | | G | D33 | x | x | x | x |
| | CM2T | G2 | G1 | TH8 | TH7 | G | D33 | x | x | x | x |
| | G3H | GTH | | ACR | | G | D33 | x | x | x | x |
| | 2JC | 1JC | GP80+ | GP60 | GP40 | G | D33 | x | x | x | x |
| | EFG6K | EFG5K | EFG4K | | | GS | D33 | | x | x | x |
| -10 | | | M4K | M3K | | G | D34 | x | x | x | x |
| | CM2T | G2 | G1 | | | G | D34 | x | x | x | x |
| | G3H | GTH | | ACR | | G | D34 | x | x | x | x |
| | | | GP80+ | GP60 | GP40 | G | D34 | x | x | x | x |
| | EFG6K | EFG5K | EFG4K | | HD-UHP | GS | D35 | | x | x | x |
| -12 | | | M4K | M3K | | G | D35 | x | x | x | x |
| | CM2T | G2 | G1 | TH8 | TH7 | G | D35 | x | x | x | x |
| | | GTH | GMV | ACR | | G | D35 | x | x | x | x |
| | | | GP80+ | GP60 | GP40 | G | D35 | x | x | x | x |
| | EFG6K | EFG5K | EFG4K | | HD-UHP | GS | D35 | | x | x | x |
| -16 | | | | M3K | | G | D37 | x | x | x | x |
| | CM2T | G2 | G1 | TH8 | TH7 | G | D37 | x | x | x | x |
| | | GTH | GMV | ACR | | G | D37 | x | x | x | x |
| | | | GP80+ | GP60 | GP40 | G | D37 | x | x | x | x |
| | EFG6K | EFG5K | EFG4K | | HD-UHP | GS | D37 | | x | x | x |
| -20 | | G2 | G1 | | | G | D39 | | x | x | x |
| | | | GMV | ACR | | G | D39 | | x | x | x |
| | | | GP80+ | | GP40 | G | D39 | | x | x | x |
| | | | EFG4K | EFG3K | | | GS | D39 | | | x |
| | EFG6K | EFG5K | | | HD-UHP | GS | D310 | | | | x |
| -24 | M2T | G2 | G1 | | | GSP | D310 | | | | |
| | | | GMV | ACR | | GSP | D310 | | | | |
| | | | GP80+ | | GP40 | GSP | D310 | | | | |
| | | | | EFG3K | | | GSP | D311 | | | |
| | EFG6K | EFG5K | | | | GSM | D311 | | | | |
| -32 | M2T | G2 | G1 | | | GSP | D312 | | | | |
| | | | GMV | ACR | | GSP | D312 | | | | |
| | | | GP80+ | | | GSP | D312 | | | | |
| | | | | EFG3K | | | | D313 | | | |
| | EFG6K | EFG5K | | | | | D314 | | | | |

wire-braid reinforcement

4 spiral wire reinforcement

6 spiral wire reinforcement

* Only with intermediate dies

Note: High/Low Temp, MTF, XTF & Twin solutions follow the die set recommendation of its standard equivalent

CRIMPING MACHINES

Legacy Machinery

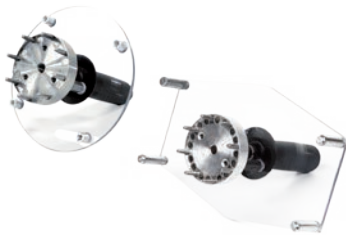
| | MCX50 MCX 239-Dxx * | MCX50 237-Dxx | MC5001 - MC3001 - MC2501 | MC5000 - MC3000 - MC2000 | K2503 - MC1000 | K4003 - K7003 - S5101 | P32 - FP110 - P51 - FP120 - FP140 - FP160 | P20HP - FP20 - P21 |
|--|------------------------|------------------|-----------------------------|-----------------------------|-------------------|--------------------------|--|-----------------------|
| | x | | MC5001-D21 | MC5001-D21 | MC1001-D21 | K4/K7/S5-D21 | FP P32-D21 | FP P20-D21 |
| | x | | MC5001-D21 | MC5001-D21 | MC1001-D21 | K4/K7/S5-D21 | FP P32-D21 | FP P20-D21 |
| | x | | MC5001-D21 | MC5001-D21 | MC1001-D21 | K4/K7/S5-D21 | FP P32-D21 | FP P20-D21 |
| | x | | MC5001-D21 | MC5001-D21 | MC1001-D21 | K4/K7/S5-D21 | FP P32-D21 | FP P20-D21 |
| | x | | MC5001-D22 | MC5001-D22 | MC1001-D22 | K4/K7/S5-D22 | FP P32-D22 | FP P20-D22 |
| | x | | MC5001-D22 | MC5001-D22 | MC1001-D22 | K4/K7/S5-D22 | FP P32-D22 | FP P20-D22 |
| | x | | MC5001-D22 | MC5001-D22 | MC1001-D22 | K4/K7/S5-D22 | FP P32-D22 | FP P20-D22 |
| | x | | MC5001-D22 | MC5001-D22 | MC1001-D22 | K4/K7/S5-D22 | FP P32-D22 | FP P20-D22 |
| | x | | MC5001-D22 | MC5001-D22 | MC1001-D22 | K4/K7/S5-D22 | FP P32-D22 | FP P20-D22 |
| | x | | MC5001-D22 | MC5001-D22 | MC1001-D22 | K4/K7/S5-D22 | FP P32-D22 | FP P20-D22 |
| | x | | MC5001-D22 | MC5001-D22 | MC1001-D22 | K4/K7/S5-D22 | FP P32-D22 | FP P20-D22 |
| | x | | MC5001-D22 | MC5001-D22 | MC1001-D22 | K4/K7/S5-D22 | FP P32-D22 | FP P20-D22 |
| | x | | MC5001-D33 | MC5001-D33 | | K4/K7/S5-D33 | FP P32-D33 | FP P20-D33 |
| | x | | MC5001-D33 | MC5001-D33 | MC1001-D33 | K4/K7/S5-D33 | FP P32-D33 | FP P20-D33 |
| | x | | MC5001-D33 | MC5001-D33 | MC1001-D33 | K4/K7/S5-D33 | FP P32-D33 | FP P20-D33 |
| | x | | MC5001-D33 | MC5001-D33 | MC1001-D33 | K4/K7/S5-D33 | FP P32-D33 | FP P20-D33 |
| | x | | MC5001-D33 | MC5001-D33 | MC1001-D33 | K4/K7/S5-D33 | FP P32-D33 | FP P20-D33 |
| | x | | MC5001-D33 | MC5001-D33 | | K4/K7/S5-D33 | FP P32-D33 | FP P20-D33 |
| | x | | MC5001-D34 | MC5001-D34 | MC1001-D34 | K4/K7/S5-D34 | FP P32-D34 | FP P20-D34 |
| | x | | MC5001-D34 | MC5001-D34 | MC1001-D34 | K4/K7/S5-D34 | FP P32-D34 | FP P20-D34 |
| | x | | MC5001-D34 | MC5001-D34 | MC1001-D34 | K4/K7/S5-D34 | FP P32-D34 | FP P20-D34 |
| | x | | MC5001-D34 | MC5001-D34 | MC1001-D34 | K4/K7/S5-D34 | FP P32-D34 | FP P20-D34 |
| | x | | MC5001-D35 | MC5001-D35 | | | FP P32-D35 | FP P20-D35 |
| | x | | MC5001-D35 | MC5001-D35 | MC1001-D35 | K4/K7/S5-D35 | FP P32-D35 | FP P20-D35 |
| | x | | MC5001-D35 | MC5001-D35 | MC1001-D35 | K4/K7/S5-D35 | FP P32-D35 | FP P20-D35 |
| | x | | MC5001-D35 | MC5001-D35 | MC1001-D35 | K4/K7/S5-D35 | FP P32-D35 | FP P20-D35 |
| | x | | MC5001-D35 | MC5001-D35 | MC1001-D35 | K4/K7/S5-D35 | FP P32-D35 | FP P20-D35 |
| | x | | MC5001-D35 | MC5001-D35 | MC1001-D35 | K4/K7/S5-D35 | FP P32-D35 | FP P20-D35 |
| | x | | MC5001-D37 | MC5001-D37 | MC1001-D37 | K4/K7/S5-D37 | FP P32-D37 | FP P20-D37 |
| | x | | MC5001-D37 | MC5001-D37 | MC1001-D37 | K4/K7/S5-D37 | FP P32-D37 | FP P20-D37 |
| | x | | MC5001-D37 | MC5001-D37 | MC1001-D37 | K4/K7/S5-D37 | FP P32-D37 | FP P20-D37 |
| | x | | MC5001-D37 | MC5001-D37 | MC1001-D37 | K4/K7/S5-D37 | FP P32-D37 | FP P20-D37 |
| | x | | MC5001-D37 | MC5001-D37 | | | FP P32-D37 | FP P20-D37 |
| | x | | MC5001-D39 | MC5001-D39 | | | FP P32-D39 | FP P20-D39 |
| | x | | MC5001-D39 | MC5001-D39 | | | FP P32-D39 | FP P20-D39 |
| | x | | MC5001-D39 | MC5001-D39 | | | FP P32-D39 | FP P20-D39 |
| | x | | MC5001-D39 | MC5001-D39 | | | FP P32-D39 | FP P20-D39 |
| | x | | MC5001-D310B | MC5001-D310B | | | FP P32-D310 | |
| | x | | MC5001-D310B | MC5001-D310B | | | FP P32-D310 | |
| | x | | MC5001-D310B | MC5001-D310B | | | FP P32-D310 | |
| | x | | MC5001-D310B | MC5001-D310B | | | FP P32-D310 | |
| | | x | MC5001-D311 | MC5001-D311 | | | FP P32-D311 | |
| | | x | MC5001-D311 | MC5001-D311 | | | FP P32-D311 | |
| | | x | MC5001-D312 | MC5001-D312 | | | FP P32-D312 | |
| | | x | MC5001-D312 | MC5001-D312 | | | FP P32-D312 | |
| | | x | MC5001-D312 | MC5001-D312 | | | FP P32-D312 | |
| | | x | MC5001-D313 | MC5001-D313 | | | FP P32-D313 | |
| | | x | MC5001-D314B | MC5001-D314B | | | FP P32-D314 | |

Note: The list of die sets for legacy machines does not indicate the capability of each given machine to the respective hose-coupling combination, but only gives an overview of the die sets available in the respective die type, please refer to your installation and calibration manual for maximum hose-coupling capability of your respective self-assembly machine.

CRIMPING MACHINES

THE WORLD OF ASSEMBLY MACHINERY

ACCESSORIES



Quick die change tool (QDC)

The universal quick die change tool allows fast and easy change of dies without risk of damage to the die sets. The transparent shield of the QDC allows you to quickly and safely position die sets into the master dies of the crimper head. A single press of the closing button is enough to lock the dies safely in place and rapidly produce a perfect hose assembly. When buying an electrical crimper, the QDC that goes together with the respective machine will be included in the package.

Ref: 7480-19194: QDC MCX 25 / 7480-19200: QDC MCX 30 / 7480-19195: QDC MCX 50



Marking dies

To facilitate compliance with the European Machinery Directive, which insists that finished assemblies are marked with the manufacturer's name and the manufacturing date code, a range of marking dies is now available for the MCX 50, MCX 30, MCX 25 and MCX 20 machines.

Please contact Gates for further information.



e-Crimp: online crimp settings in seconds

You no longer need to search through a stockpile of cd-roms to find the correct crimp settings. Go to ww2.gates.com/europe/e-crimp and use our fast sign-up procedure to obtain correct crimp settings in seconds! After logging in, you can access the Crimp Data Sheets, sorted by machine type. Select your machine type and print out an up-to-date sheet with accurate crimp data information or download the pdf documents to your desktop or mobile devices. Regular e-mails from our engineers keep you up to date about the newest crimp settings in the market.

ANCILLARIES



Optigrat OG 642 Tube Deburring Machine

Electrically driven deburring unit for quick and clean inner and outer deburring of tubes from 6 to 42 mm diameter. The device is made of HSS steel to ensure mark-free deburring with extraordinary service life.

| Technical Specifications OG 642 Optigrat | | OG 642 |
|--|---------|-----------------|
| | | 400 V / 3-phase |
| rotational speed inner deburring | rev/min | 300 |
| rotational speed outer deburring | rev/min | 200 |
| electric drive | Hz | 50 |
| weight | ca. kg | 30 |
| dimensions (mm) | H | 225 |
| | W | 492 |
| | D | 333 |
| order code | | OPTIGRAT OG 642 |



TC 1036 S Uniclean Tube Rinsing Machine

Tube systems should not be installed without being carefully cleaned to avoid blocked valves and other problems. Uniclean permits easy cleaning directly at the place of assembly and is applicable for tubes from 6-42 mm outer diameter. It is equipped with a two-stage turbo-nozzle and an effective tank sealing with a special air filter for easy maintenance.

| Technical Specifications TC 1036 S Uniclean | | TC 1036 S |
|---|----------|--------------------|
| TC 1036 S Uniclean | bar | 6 |
| maximum mains air pressure | bar | 18 |
| operating pressure | bar | 2-8 |
| max. working pressure medium to pistol | bar | 32 |
| max. air requirement | ltr./min | 400 |
| inner tube diameter | mm | 4-40 |
| max. tube length | m | 6 |
| max. hose length | m | 7.5 |
| medium tank capacity | ltr. | 30 |
| electric drive | Hz | 50 |
| weight | ca. kg | 30 |
| | mm H | 500 |
| | mm W | 380 |
| dimensions | mm D | 640 |
| | | |
| order code | | UNICLEAN TC 1036 S |

ANCILLARIES

THE WORLD OF ASSEMBLY MACHINERY



Ref: 7480-19193

MSX Hose Assembly Marking machine

This hand-operated marking machine is a precise, compact service-free bench unit for Gates ferrules, one-piece and two-piece fittings. The MSX 50 is equipped with a hand wheel to adjust the character setting to the ferrule for the requested marking depth. The slot in the character holder allows for easy character placement. The machine is compliant with the European Machinery Directive. Please contact Gates for order info on the required characters.



Ref: 7480-00100

Push-on tool

Pushing couplings on hoses can be a tough job. Gates Push-on tool makes the insertion of couplings on hoses quick and easy. This hand-operated coupling machine, with its rugged cast iron and steel construction, eliminates the hard work of manually pushing stems into hoses and improves your hose assembly cost-efficiency.



Ref: 7482-1342

MegaCrimp® insertion tool

The MegaCrimp® coupling insertion tool offers an easy way to confirm the right insertion depth for all Gates wire-braid hydraulic hoses. It also verifies the squareness of cut!

ANCILLARIES



Hose perforator

Gates hose perforators have needle-studded wooden rollers which perforate the covers on no-skive wire-braid and spiral wire hoses used in pressure gas applications (up to 3.5 MPa). 7482-06565 is recommended for hoses from 3/16" to 3/4", 7482-06566 for hoses from 1" to 2".

Ref: 7482-06565: 3/16" – 3/4" / 7482-06566: 1" – 2"



Rotational table

Rotational table ideal for the unwinding of hose coils. This large diameter hose table will support your complete range of braided and spiral wire hoses.

Ref: 7480-19135
