Kolarc M Series
Professional Multiprocess Welding Machines

All MIG/MAG processes, One machine, One price!
- Xroot / Xroot Pulse - for perfect root welding
- Xdeep / Xdeep Pulse - high-performance arc with deep penetration
- Xposition - for positional welding
- Xpulse - %100 penetration even with 15° V preparation
- Xcold / Xcold Pulse - minimises heat input for thin sheet welding
- Pulse and MIG/MAG
- Multi Process TIG, MMA welding and Arc gouging

Operating Status
Digital display indicates the error codes for blocked air flow. Thermal Overload Protection prevents machine damage.

Access Control
Welding parameters can be locked by supervisor preventing tampering, ensuring Quality is maintained.

Site power generators can be used without problem.

Kolarc Interconnection Hose Packages
- High quality materials for long service life
- Industrial-quality control plugs
- Highly flexible cable bundle
- Fabric-sheathed hoses can handle high pressure and temperature loads
- Gas hoses in accordance with EN 559 prevents shielding gas contamination
FM 4X – Brings all functions to the workplace

The wire feed unit is built for daily use
Available in four practical, control panel variants: Pulse, Rapid Pulse, Synergic and Basic.

100 Program Memory

Increases productivity, prevents misuse.
Saved programs can be called from the front panel or directly from the torch. The number of memory location can be limited to allow rapid access to the correct program.

Steel / NiCr / Copper and Aluminum

Over 200 welding programs (Jobs) that provide the best performance on all metals available as standard.

Advanced Inverter Technology

Delivers energy savings up to 35% against conventional equipment and superior arc control without spatter.

Wind Tunnel Design

Cooling air is drawn through an internal tunnel which separates the electrical and electronic components from grinding dust and dirt, extending the machine’s life.

Inteligent Cooling System

Smart fan operates only when needed, reducing noise, energy consumption and increasing service intervals.

Easy Lifting by Crane
M Series
Wire Feeder Front Panel FM 4X

With Profinet
Ethernet/IP
and DeviceNet,

Ready For AllRobotics and Automations!

Easy, Intelligible Design
Easy to read interface
Intuitive self-explanatory operation.
Only Active functions are shown.

Access Control

Right Wheel
to set arc length and
arc dynamics

Material Selection

Wire Diameter Selection

Welding Parameters
Control of the smallest detail
Quick and easy adjustment of many features such as
Pre-gas, hot start, post gas, crater fill and burn-back

Rapid Pulse panel

Left Wheel to set Synergic value
(wire speed, material thickness or current)

Rapid Pulse

M3
Mem
M2
M1
S4T
4T
2T
4T
0.8
0.0
0.8
1.0
1.2
Al
CrNi
Steel

Easy to read interface
Intuitive self-explanatory operation.
Only Active functions are shown.
FM 4X

Pulse

Rapid Pulse

Synergic

Basic

M1  M2  M3
CrNi  Al
Steel  CuNi

9 mm Delik
12 mm Delik
Şeffaf Kırmızı (LED için)
11mm Kabartma Buton
Perfect wire feeding and arc stability
FM 4X

Wire feeding – Precise and practical
37 mm wire-feed rolls, Encoder motor and 4x4 wire-feed box give a steady arc characteristic without spatter.

Automatic wire inching saves time
Simple, tool-free roll changing
Long-lasting rolls with two different wire diameters on the same roll

Illuminated feed box

Changing wire and operating the machine is easy even in poor lighting
Hardware - Strong and easy to use

Tool-free changing of interconnection hose packages
Externally accessible connections
Strain-relieved hose package with clamp and swivel system
Protected hose package connections

Gas test-button
Gas flow can be checked safely.

Wire inching-button
Load the wire quickly without wasting gas.

Wire feed unit available in four practical control variants:
Pulse, Rapid Pulse, Synergic, Basic
**M Series**

**Water Cooling Unit**

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**High efficiency cooler ensures torch performance**

High efficiency torch water cooling. High-performance arcs need cool running torches. Cool running torches give lower costs for consumables and torch maintenance, even under demanding environmental conditions.

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**Modular structure**

Cooling-unit designed as modular and is able to be added or removed from a welding system as required.

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**High capacity heat exchanger and independent fan cooling**

The fans of the motor and the heat exchanger are separate, improving water cooling efficiency.
Custom configurable – As your require

Kolarc machines are available optionally with air or water cooling.

Built for heavy industrial applications

High pressure 4.5 bar water pump for use with long hose packages

Easy service and maintenance

Easy access to the components in the cooling unit. Easy to fill up with Kolarc coolants

Coolant level indicator

Easy to read coolant level indicator with min/max scale

Intelligent Cooling System

Operates cooling fan only when needed, reducing noise, energy use and increasing the service intervals
Xroot / Xroot Pulse - Welding of non-alloy and low-alloy steel

- Perfect gap bridging
- Good root formation and excellent sidewall fusion
- High arc force for root welding in all positions
- High welding speed and melt rate compared to TIG or MMA welding
- Low-spatter process
- Rapid digital control of the process, easy to guide and to control
- Uses standard welding torches
- For manual and mechanised applications
- Flat, smooth weld surface and virtually spatter-free process for reduced post-weld finishing

Material thickness 5 mm
Gap 3 mm

Material thickness 10 mm, one-sided
bevel 15 degrees, Gap 4 mm

Pipe welding, wall thickness
15 mm, prep angle 60°
Xdeep / Xdeep Pulse - Welding of filling passes and cover passes in non-alloy and low-alloy steel

- Easy to learn, even for inexperienced welders, thanks to rapid digital control of the process, virtually spatter free, reduced undercuts
- Deep penetration for excellent root and sidewall fusion
- Reduced heat, directionally stable pulsed arc
- Enables weld seam volume to be reduced, potential for over 50% reduction of welding times, suitable for manual and automated welding.
- Perfect welding even with very long stick-outs
- Excellent gap bridging even at high power.
- Excellent wetting of the material surface, smooth weld surface even on heavily oxidised or dirty sheet metal
Xposition - Positional welding without using the pine tree technique on non-alloy, low-alloy and high-alloy

- Higher welding speeds compared with traditional pine wood technique
- Concentrated, digitally modified pulsed arc
- Spatter-free welding results thanks to rapid digital control of the welding process
- Optimum, factory-configured pulsing between low and high welding power
- Reduced heat input with low arc power and energy per metre
- Flat, evenly spaced bead ripples, spatter-free process for reduced finishing
- Easy to set and easy to guide

Pulse - Welding of Steel / NiCr / Copper and Aluminum alloy

- Superior process control thanks to the use of the latest micro-electronics
- Minimised weld spatter
- Customise the weld bead appearance with adjustable double pulse function
Xpulse - Welding with consistent penetration and consistent heat input on non-alloy, low-alloy and high-alloy steel

- Welding process with consistent high penetration regardless of alterations to stick-out
- Virtually spatter-free welding results thanks to rapid digital control of the welding process
- Digital process control provides a consistent welding current
- The energy per metre and heat input remain consistent despite changes to stick-out
- Reduced prep angle provides savings in consumable consumption and welding time
- Flat, smooth weld surface virtually spatter-free for reduced finishing work
- Easy to learn and to control

Xcold / Xcold Pulse - Welding and brazing of thin sheet metal made from nonalloy, low-alloy, high-alloy steel and galvanised sheet metal

- Short-circuit welding with low heat input due to digital control of droplet transfer using high speed inverter
- Reduced discoloration and distortion
- Flat, smooth weld surface, virtually spatter-free, reduced post weld finishing work, excellent wetting of surfaces when brazing
- Rapid digital control of the arc ensures the arc is easy to guide and control
- High speed digital inverter allows welding with long hose packages without additional voltage measuring leads
- Minimal spatter formation, minimises impact on corrosion resistance even with galvanised materials
Kolarc M Series
Technical Information

<table>
<thead>
<tr>
<th>POWER UNIT</th>
<th>M 200 C Series</th>
<th>M 300 C Series</th>
<th>M 400 Series</th>
<th>M 500 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Voltage (VAC)</td>
<td>230 ± %10</td>
<td>400 ± %10</td>
<td>400 ± %10</td>
<td>400 ± %10</td>
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<tr>
<td>Output Range (MIG, A)</td>
<td>20-200</td>
<td>20-300</td>
<td>20-400</td>
<td>20-500</td>
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<tr>
<td>Duty Cycle (40°C)</td>
<td>%25: 200 A, 23.0 V</td>
<td>%35: 280 A, 26.6 V</td>
<td>%60: 330 A, 24.4 V</td>
<td>%60: 400 A, 32.0 V</td>
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<tr>
<td></td>
<td>%60: 230 A, 24.4 V</td>
<td>%60: 400 A, 32.0 V</td>
<td>%100: 330 A, 27.5 V</td>
<td>%100: 400 A, 32.0 V</td>
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<tr>
<td></td>
<td>%100: 90 A, 18.1 V</td>
<td>%100: 180 A, 22.1 V</td>
<td>%100: 330 A, 27.5 V</td>
<td>%100: 400 A, 32.0 V</td>
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<tr>
<td>Max. Input Power (kVA)</td>
<td>7.2</td>
<td>10.8</td>
<td>17.8</td>
<td>24.8</td>
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<tr>
<td>Open Circuit Voltage (VDC)</td>
<td>68</td>
<td>67</td>
<td>90</td>
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<tr>
<td>Dimensions (HxWxL, mm)</td>
<td>392 x 242 x 578</td>
<td>632 x 243 x 638</td>
<td>452 x 243 x 701</td>
<td>452 x 243 x 701</td>
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<tr>
<td>Net Weight (kg)</td>
<td>23</td>
<td>36.5</td>
<td>60</td>
<td>60</td>
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<tr>
<td>Standard Accessories</td>
<td>3 m Power Cable (4 x 2.5 mm²)</td>
<td>3 m Power Cable (4 x 2.5 mm²)</td>
<td>3 m Power Cable (4 x 4 mm²)</td>
<td>3 m Power Cable (4 x 6 mm²)</td>
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<td></td>
<td>2 m Ground Cable (16 mm²)</td>
<td>3 m Ground Cable (25 mm²)</td>
<td>3 m Ground Cable (50 mm²)</td>
<td>3 m Ground Cable (70 mm²)</td>
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<tr>
<td></td>
<td>Gas Regulator</td>
<td>Gas Regulator</td>
<td>Gas Regulator</td>
<td>Gas Regulator</td>
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<tr>
<td></td>
<td>3 m 200 A Torch</td>
<td>3 m 300 A Torch</td>
<td>3 m 400 A Torch</td>
<td>3 m 400 A Torch</td>
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Kolarc reserves the right to make changes without notification.
**COOLING UNIT**

<table>
<thead>
<tr>
<th>KM 501 Series</th>
<th>KM 500</th>
<th>KM 600</th>
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<tbody>
<tr>
<td><strong>Cooling Capacity (W)</strong></td>
<td>1300</td>
<td>1300</td>
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<tr>
<td><strong>Tank Capacity (L)</strong></td>
<td>5</td>
<td>5</td>
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<tr>
<td><strong>Max. Pressure (bar)</strong></td>
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<tr>
<td><strong>Max. Temperature (°C)</strong></td>
<td>CE</td>
<td>CE</td>
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<tr>
<td><strong>Dimensions (HxWxL, mm)</strong></td>
<td>243 x 245 x 700</td>
<td>271 x 313 x 670</td>
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<tr>
<td><strong>Weight (kg)</strong></td>
<td>23</td>
<td>28</td>
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</tbody>
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**WIRE FEEDING UNIT**

<table>
<thead>
<tr>
<th>KM 501 Series</th>
<th>KM 500</th>
<th>KM 600</th>
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</thead>
<tbody>
<tr>
<td><strong>Wire Feed Speed (m/min.)</strong></td>
<td>24</td>
<td>24</td>
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<tr>
<td><strong>Max spool Dia (mm)</strong></td>
<td>300</td>
<td>300</td>
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<tr>
<td><strong>Duty Cycle (40°C)</strong></td>
<td>%60 : 500 A, 36.5 V</td>
<td>%60 : 600 A, 41.0 V</td>
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<tr>
<td><strong>Torch Connection</strong></td>
<td>EURO</td>
<td>EURO</td>
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<td><strong>Protection Class</strong></td>
<td>IP 21</td>
<td>IP 21</td>
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<tr>
<td><strong>Standards</strong></td>
<td>CE</td>
<td>CE</td>
</tr>
<tr>
<td><strong>Dimensions (HxWxL, mm)</strong></td>
<td>336 x 242 x 509</td>
<td>322 x 223 x 501</td>
</tr>
<tr>
<td><strong>Weight (kg)</strong></td>
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<td>12</td>
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