COMPACT WIRE DRIVE SYSTEM FOR AUTOMATION

Power Feed® 10R

The Power Feed® 10R is a high performance, digitally controlled wire drive for modular, multi-process welding systems. It is specifically designed to mount to a robot arm or to use in hard automation applications. Close integration of the wire drive, power source and existing equipment creates the foundation for a system with superior welding performance and reliability.

KEY FEATURES

Processes (Power source controlled) »
- MIG, Pulsed, STT®, Flux-Cored

Applications »
- Robotic Fabrication, Hard Automation, Flexible Automation

Output »

Input »

Product Number »
K1780-3  Power Feed® 10R

Shown: Power Feed® 10R mounted on a FANUC® Robot Arm.
FEATURES

- **Integrated Design** – Designed to “nest” in the upper arm of the FANUC® Robotics ARC Mate® iC family of arms
- **Digital Control** – Yields industry leading performance
- **Fast Braking** – Goes from maximum speed to zero in milliseconds, minimizing the chance of wire sticking in the puddle
- **Two Speed Settings** – Select low or high speed gears for a wide wire feed speed range
- **Split Wire Guides** – Trouble-free feeding and fast, tool-less wire installation, changeover and maintenance
- **Tachometer Feedback** – Provides calibration and precise control of wire feed speed
- **Brass-to-Brass Connections** – Enhanced electrical connectivity between torch and feeder results in improved arc performance
- **Drive Roll Tension Gauge** – Easy-to-read for accurate tension setting
- **Self-loading Wire Capability** – Easy set-up
- **Modular Construction** – Simplifies drive maintenance

A CLOSER LOOK

- The Power Feed® 10R consists of an industrial motor driving the feeder mechanism in a sheet metal frame. The logic for controlling the wire feeder resides in a PC board inside the robotic power source.
- Lower section contains gas solenoid and differential tachometer amplifier allowing accurate motor speed control up to 100 ft. (30.5 m) from the power source.
- Easy-to-read gauge allows the operator to accurately set tension on the wire.
- Brass-to-brass electrode pairing connections for good connectivity between welding torch and torch bushing.
- High speed gear for most fine wire applications. Low speed gear for applications requiring higher torque such as welding with Innershield® self-shielded flux-cored electrode.
- Braking system minimizes wire sticking in the puddle for smooth finishes.
- Split wire guide provides easy wire loading and accessibility for maintenance.
- The feeder is self-threading for easy wire loading enabling operator to feed wire without the need to remove drive rolls.
- Variety of drive roll sizes and types for any application.
- Tool-less access to routine maintenance points.

KEY CONTROLS

- 1. Drive Roll Tension Gauge
- 2. Drive Roll Tension Adjustment Knob
- 3. 14-Pin Receptacle for Control Cable
- 4. CGA Gas Connection
- 5. Wire Inlet Guide
- 6. Optional Water Kit (Not Shown)
- 7. Drive Roll Cover
- 8. Gun Bushing (Not Shown)
### Options

#### Feed Plate Gun Receiver Bushings

<table>
<thead>
<tr>
<th>K1500-1 Gun Receiver Bushing (Standard)</th>
<th>K1500-2 Gun Receiver Bushing (Optional)</th>
<th>K1500-3 Gun Receiver Bushing (Optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnum® PRO 250, 350 and 450 or Magnum® 200, 300 and 400 Gun and Cable Assemblies with K466-1 Connector Kit.</td>
<td>Magnum® PRO 350 Gun Pkg. with 035-045 Liner and K466-10 Connector Kit [K2652-2-10-45]</td>
<td>Magnum® PRO 550 or Magnum® 550 Gun and Cable Assembly with K613-7 Connection.</td>
</tr>
</tbody>
</table>
| Magnum® PRO 550 or Magnum® 550 Gun and Cable Assembly with K613-1 Connector Kit. | Magnum® 200 and 400 Fully Assembled Guns (K497-2X And K471-2X). | |}

#### 14-Pin to 14-Pin Control Cables

<table>
<thead>
<tr>
<th>Description</th>
<th>Product Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 in. (0.45 m)</td>
<td>K1785-2</td>
</tr>
<tr>
<td>2 ft. (0.61 m)</td>
<td>K1785-3</td>
</tr>
<tr>
<td>4 ft. (1.2 m)</td>
<td>K1785-4</td>
</tr>
<tr>
<td>12 ft. (3.6 m)</td>
<td>K1785-12</td>
</tr>
<tr>
<td>16 ft. (4.8 m)</td>
<td>K1785-16</td>
</tr>
<tr>
<td>25 ft. (7.6 m)</td>
<td>K1785-25</td>
</tr>
<tr>
<td>40 ft. (12.2 m)</td>
<td>K1785-40</td>
</tr>
<tr>
<td>50 ft. (15.2 m)</td>
<td>K1785-50</td>
</tr>
<tr>
<td>100 ft. (30.4)</td>
<td>K1785-100</td>
</tr>
</tbody>
</table>

#### Cable Adapters

<table>
<thead>
<tr>
<th>Cable Adapter</th>
<th>Cable Length ft. (m)</th>
<th>Product Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>22-pin to 14-pin</td>
<td>18 (0.45)</td>
<td>K1804-1(3)</td>
</tr>
<tr>
<td></td>
<td>18 (0.45)</td>
<td>K1804-2(3)</td>
</tr>
<tr>
<td></td>
<td>18 (0.45)</td>
<td>K2681-1(2)</td>
</tr>
<tr>
<td>14-pin to 22-pin</td>
<td>18 (0.45)</td>
<td>K1805-1</td>
</tr>
</tbody>
</table>

*Only for K1795 to Power Feed® 10R connection.
*Only for Power Wave® 655 (22-pin) to K1785.

### Feed Plate Gun Receiver Bushings

- **Magnum® PRO 250, 350 and 450 or Magnum® 200, 300 and 400 Gun and Cable Assemblies with K466-1 Connector Kit.**
- **Magnum® Self-Shielded Innershield® Gun and Cable Assembly.**
- **Magnum® PRO 550 or Magnum® 550 Gun and Cable Assembly with K613-1 Connector Kit.**

### 14-Pin to 14-Pin Control Cables

- **18 in. (0.45 m):** K1785-2
- **2 ft. (0.61 m):** K1785-3
- **4 ft. (1.2 m):** K1785-4
- **12 ft. (3.6 m):** K1785-12
- **16 ft. (4.8 m):** K1785-16
- **25 ft. (7.6 m):** K1785-25
- **40 ft. (12.2 m):** K1785-40
- **50 ft. (15.2 m):** K1785-50
- **100 ft. (30.4):** K1785-100

### Cable Adapters

- **22-pin to 14-pin:**
  - 10 (3)
  - 18 (0.45) K1804-1(3)
  - 18 (0.45) K1804-2(3)
  - 18 (0.45) K2681-1(2)
- **14-pin to 22-pin:**
  - 18 (0.45) K1805-1

*Only for K1795 to Power Feed® 10R connection.
*Only for Power Wave® 655 (22-pin) to K1785.

### Hard Automation

- **Power Feed® 10R:** K1780-3
- **Power Wave® 455M:** K2652-3
- **Power Wave® 455M/STT®** Robotic K2653-1

### Robotic

- **Power Feed® 10R:** K1780-3
- **Power Wave® 455M:** K2652-3
- **Power Wave® 455M/STT®** Robotic K2653-1

### Magnum® PRO Wire Feeders

- **Power Wave® 455M:** K2652-3
- **Power Wave® 455M/STT®** Robotic K2653-1
- **Power Wave® 655:** K2653-1
## RECOMMENDED ACCESSORIES TO EXPAND MACHINE CAPABILITIES

### DRIVE ROLL AND WIRE GUIDE KITS

<table>
<thead>
<tr>
<th>Description</th>
<th>Wire Size in. (mm)</th>
<th>Product Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid Steel Wire, Smooth V Groove</td>
<td>0.023-.030 (0.6-.8)</td>
<td>K1505-030S</td>
</tr>
<tr>
<td></td>
<td>0.035 (0.9)</td>
<td>K1505-035S</td>
</tr>
<tr>
<td></td>
<td>0.040-.045 (1.0-1.2)</td>
<td>K1505-045S</td>
</tr>
<tr>
<td></td>
<td>0.052 (1.4)</td>
<td>K1505-052S</td>
</tr>
<tr>
<td></td>
<td>1/16 (1.6)</td>
<td>K1505-1/16S</td>
</tr>
</tbody>
</table>

| Cored Steel Wire, Knurled V Groove   | 0.030-.035 (0.8-.9) | K1505-035C     |
|                                      | 0.040-.045 (1.0-1.2) | K1505-045C     |
|                                      | 0.052 (1.4)        | K1505-052C     |
|                                      | 1/16 (1.6)         | K1505-1/16C    |
|                                      | 7/64 (.28)         | K1505-7/64H    |

| Cored or Solid Steel Wire, Knurled V Groove | 0.068-.072 (1.8) | K1505-068     |
|                                           | 9/64 (2.0)        | K1505-9/64     |
|                                           | 3/32 (2.4)        | K1505-3/32     |
|                                           | 7/64 (2.8)        | K1505-7/64     |
|                                           | .012 (0.4)        | K1505-012     |

| Aluminum Wire, Smooth U Groove         | 0.035 (0.9)       | K1507-035A    |
|                                       | 0.040 (1.0)       | K1507-040A    |
|                                       | 3/64 (1.2)        | K1507-3/64A   |
|                                       | 1/16 (1.6)        | K1507-1/16A   |
|                                       | 3/32 (2.4)        | K1507-3/32A   |

### GENERAL OPTIONS

**Wire Straightener**
- Straightens wire for better, smoother feeding.
- Order K1733-1

**Incoming Bushing for Lincoln Conduit**
- Feed Plate incoming bushings connect directly to wire conduit (sold separately) for use in boom system, long distances or large payoff packages. Bushings can be used with K515-L or K565-L wire conduit.
- Order K1546-1 for .025-1/16 in. wire
- Order K1546-2 for 1/16-1/8 in. wire

**Water Connection Kit**
- Kit includes quick disconnect inlet and outlet fittings with water hose and clamps.
- Order K590-7

### PRODUCT SPECIFICATIONS

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Product Number</th>
<th>Input Power</th>
<th>Wire Feed Speed Range in/min (m/min)</th>
<th>Wire Size Range: in. (mm)</th>
<th>H x W x D inches (mm)</th>
<th>Net Weight lbs. (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Feed® 10R</td>
<td>K1780-3</td>
<td>40V DC</td>
<td>50-800 (1.3-20.3)</td>
<td>0.023-0.045 (0.6-1.2)</td>
<td>8.4 x 7.5 x 9.1 (213 x 191 x 231)</td>
<td>13.2 (6.0)</td>
</tr>
</tbody>
</table>


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