

# COMPACT WIRE DRIVE SYSTEM FOR AUTOMATION

## Power Feed® 10R



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

## KEY FEATURES

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.

**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

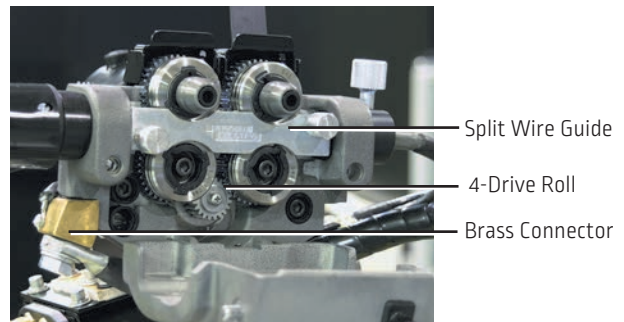
## FEATURES

- **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

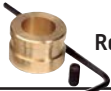




4-Drive Roll and Split Wire Guide System

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

# OPTIONS

## FEED PLATE GUN RECEIVER BUSHINGS

 <b>K1500-1 Gun Receiver Bushing (Standard)</b>	 <b>K1500-2 Gun Receiver Bushing (Optional)</b>	 <b>K1500-3 Gun Receiver Bushing (Optional)</b>
Magnum® PRO 250, 350 and 450 or Magnum® 200, 300 and 400 Gun and Cable Assemblies with K466-1 Connector Kit.	Magnum® PRO 350 Gun Pkg. with 035-045 Liner and K466-10 Connector Kit (K2652-2-10-45)	Magnum® PRO 550 or Magnum® 550 Gun and Cable Assembly with K613-7 Connection.
Magnum® Self-Shielded Innershield® Gun and Cable Assembly.	Magnum® PRO 450 Gun Pkg. With 035-045 Liner and K466-10 Connector Kit (K2653-2-10-45)	Guns with Tweco® #5 Connectors.
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).	
	Magnum® PRO 250, 350 And 450 or Magnum® 200, 300 and 400 Gun and Cable Assemblies with K466-10 Connector Kit.	
	Guns with Tweco® #2, #3, and #4 Connectors.	

## 14-PIN TO 14-PIN CONTROL CABLES

Description	Product Number
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

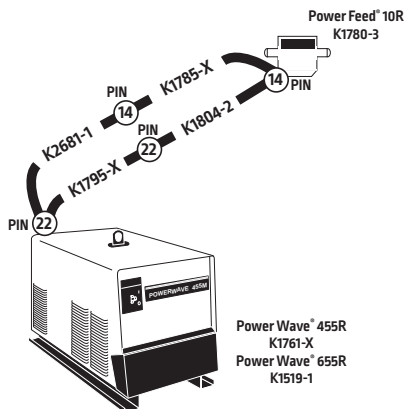
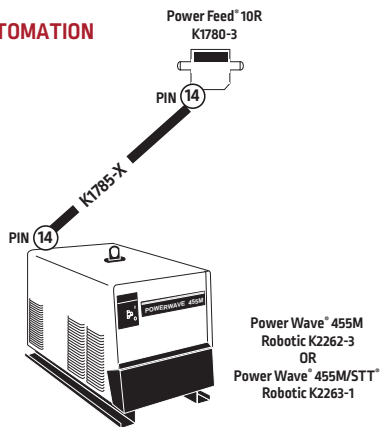
## CABLE ADAPTERS

Cable Adapter	Cable Length ft. (m)	Product Number
22-pin to 14-pin	10 (3)	K1804-1 <sup>(1)</sup>
	18 (0.45)	K1804-2 <sup>(1)</sup>
	18 (0.45)	K2681-1 <sup>(2)</sup>
14-pin to 22-pin	18 (0.45)	K1805-1

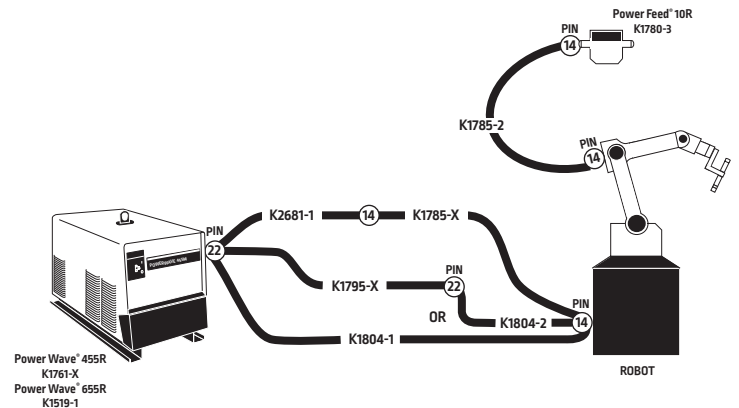
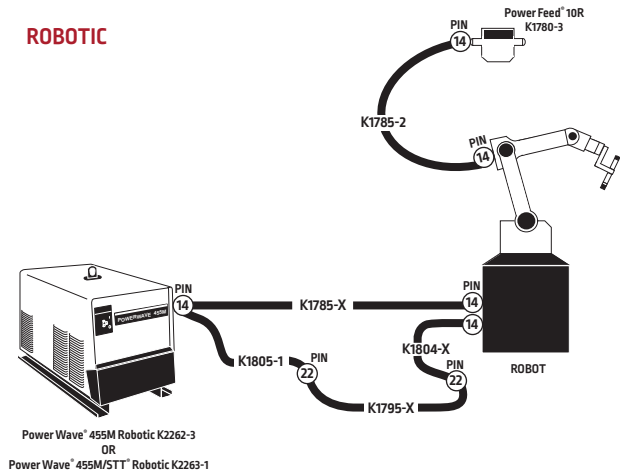
<sup>(1)</sup>Only for K1795 to Power Feed® 10R connection.

<sup>(2)</sup>Only for Power Wave® 655 (22-pin) to K1785.

## HARD AUTOMATION



## ROBOTIC



## OPTIONS

### DRIVE ROLL AND WIRE GUIDE KITS

Description	Wire Size in. (mm)	Product Number
Solid Steel Wire, Smooth V Groove	.023-.030 (0.6-0.8)	KP1505-030S
	.035 (0.9)	KP1505-035S
	.040-.045 (1.0-1.2)	KP1505-045S
	.052 (1.4)	KP1505-052S
	1/16 (1.6)	KP1505-1/16S
Cored Steel Wire, Knurled V Groove	.030-.035 (0.8-0.9)	KP1505-035C
	.040-.045 (1.0-1.2)	KP1505-045C
	.052 (1.4)	KP1505-052C
	1/16 (1.6)	KP1505-1/16C
	7/64 (2.8) Hardfacing (Smooth U Groove)	KP1505-7/64H
Cored or Solid Steel Wire, Knurled V Groove	.068-.072 (1.8)	KP1505-068
	5/64 (2.0)	KP1505-5/64
	3/32 (2.4)	KP1505-3/32
	7/64 (2.8)	KP1505-7/64
	.120 (3.0)	KP1505-120
Aluminum Wire, Smooth U Groove	.035 (0.9)	KP1507-035A
	.040 (1.0)	KP1507-040A
	3/64 (1.2)	KP1507-3/64A
	1/16 (1.6)	KP1507-1/16A
	3/32 (2.4)	KP1507-3/32A



KP1505-XX  
Drive Rolls for Solid and  
Cored Steel Wire



KP1507-XX  
Drive Rolls for  
Aluminum Wire

## RECOMMENDED ACCESSORIES TO EXPAND MACHINE CAPABILITIES

### 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

Product Name	Product Number	Input Power	Wire Feed Speed Range in/min (m/min)	Wire Size Range: in (mm)		H x W x D inches (mm)	Net Weight lbs. (kg)
				Solid	Cored		
Power Feed® 10R	K1780-3	40V DC	50-800 (1.3-20.3)	0.023-0.045 (0.6-1.2)	0.035-0.045 (0.9-1.2)	8.4 x 7.5 x 9.1 (213 x 191 x 231)	13.2 (6.0)

For best welding results with Lincoln Electric® equipment, always use Lincoln Electric consumables. Visit [www.lincolnelectric.com](http://www.lincolnelectric.com) for more details.

### CUSTOMER ASSISTANCE POLICY

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