



## Introduction

Magnum Plus is a quality directed series of multi-pin, high voltage connectors and cable assemblies. This series signifies the large number of design solutions possible because they are mechanical assemblies built-up from pre-tested, detail components, as contrasted to a conventional, one piece, molded-in-place cable assembly.

The Magnum Plus construction allows the stress testing of details such as plastic insulators and elastomeric dielectric interface seals, prior to final assembly which results in a much higher level of quality and reliability. It is also possible, in many cases, to replace damaged receptacle seals and the individual plug leads rather than discarding an entire cable assembly. Magnum Plus has 3 contacts rated at 14 KVDC and 3 contacts rated at 12 KVDC and, in all other respects, is identical to the Magnum series.

## Features

- Standard 6 pin configuration
- Rugged stainless steel shells which eliminate concern for plating flakes contaminating dielectric interfaces
- Bayonet coupling with a handle to ease mating in confined spaces
- A metal, right angle, shielded, cable strain relief
- Receptacle dielectric seal replacement
- Four polarizations available
- Optional receptacle configuration for potting, fluid or gas dielectric.
- Hermetic ceramic receptacles and feed-thrus
- Various cable and shielding options, including “loss” cable
- 12 & 14 KVDC rating at -55° C to +125° C at 70,000 feet simulated altitude.
- High voltage “burn-in,” a 100% acceptance and confidence test, conducted at simulated operating environments
- Optional corona testing categorized by customer specified partial discharge energy ranges
- Pre-formed cable bundles to eliminate over-stress on contacts and insulators





## General Specifications

### Contact-Female

Design: Split finger, closed entry, with solder bucket

Material: BeCu gold plated with CRES hood

Size: Contacts 2, 4 & 6: Size 22 (.030 Dia.). Contacts 1, 3 & 5: Size 20 (.040 Dia.)

### Contact-Male

Design: Pin with spherical radius

Material: (Plastic version) BeCu, gold plated (Ceramic version) Kovar, nickel plated

Size: Contacts 2, 4 & 6: Size 22 (.030 Dia.). Contacts 1, 3 & 5: Size 20 (.040 Dia.)

Solder Bucket: Accommodates 20 AWG Max.

### Insulator-Plug and Plastic Bodies

Diallyl Phthalate

### Insulator Noses-Plug

Thermoplastic

### Insulator-Ceramic Receptacle

94% alumina oxide, min.

Braze material 99% pure copper

### Dielectric seals-Plug & Receptacle

Silicone rubber

### “O” Rings

Silicone rubber

### Shell-Plug & Plastic Receptacle

303 CRES passivated

### Shell-Ceramic Receptacle

304 L (Weldable) CRES passivated

### Bayonet Coupling Sleeve-Plug

303 CRES passivated

### Jam Nut-Plastic Receptacle

303 CRES passivated

### Panel Seal-Plastic Receptacle

Ethelene Propylene

### Cable Assemblies-PLugs

Standard: Overall shielded, 6 conductor, .090 dia Silicone Coated FEP, high voltage cable with right angle termination

### Cable Assemblies-Receptacles

Standard: .090 dia Silicone Coated FEP high voltage cable

### Electrical

Test Voltages (Mated): Pins 1, 3 & 5 140% of rated voltage.

Pins 2, 4 & 6 150% of rated voltage

Rated Voltage: Pins 1, 3 & 5 14 KVDC @ 70,000 feet simulated altitude

Pins 2, 4 & 6 12 KVDC @ 70,000 feet simulated altitude

### Temperature

Operating: -55°C to +125°C. Storage: -65° C to +125° C



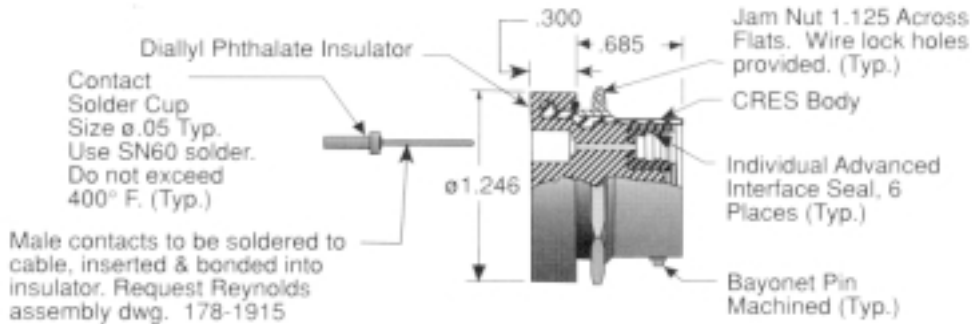
ADVANCED  
GROUP

Magnum+Plus Series  
14 KVDC

6 Pin Receptacles

**P/N 178-8963**  
Panel Receptacle for Potting

Mating  
See Note 1

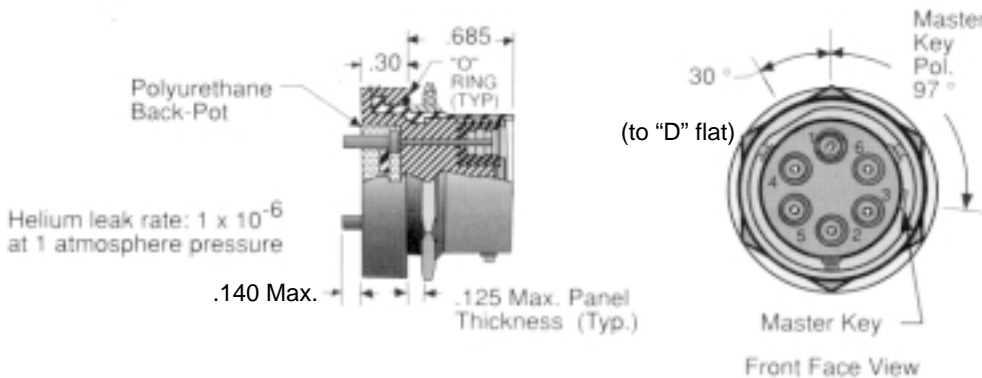


Tab Block

Receptacle	Polarization (Ref.)
P/N 178-8963-1	97° CW
P/N 178-8963-2	112° CW
P/N 178-8963-3	128° CW
P/N 178-8963-4	143° CW

**P/N 178-8962**  
Panel Receptacle for Fluid or Gas Immersion

Mating  
See Note 1

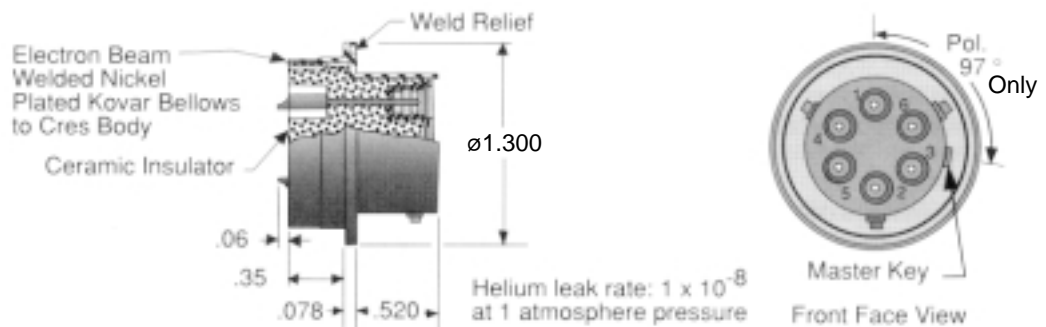


Tab Block

Receptacle	Polarization (Ref.)
P/N 178-8962-1	97° CW
P/N 178-8962-2	112° CW
P/N 178-8962-3	128° CW
P/N 178-8962-4	143° CW

**P/N 467-7041**  
Panel Receptacle with Brazed Ceramic Insulator

Mating  
See Note 1



NOTE 1. Mates all Magnum Plus series plug cable assemblies with compatible polarization. See See page 41



ADVANCED  
GROUP

Magnum Plus Series  
14 KVDC

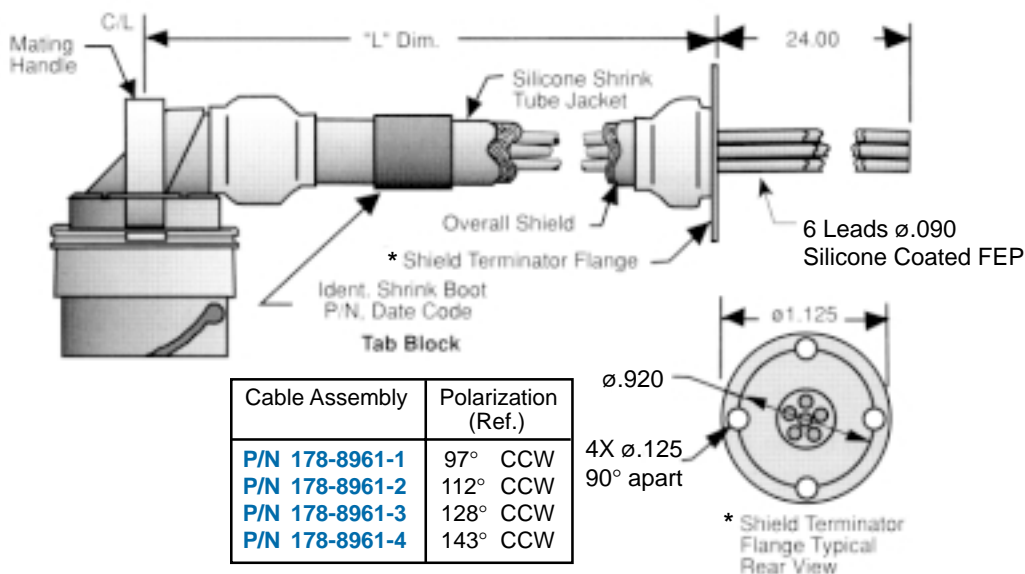
6 Pin Cable Assemblies

P/N 178-8961

Single Ended Plug Cable Assembly

Mating

See Note 1

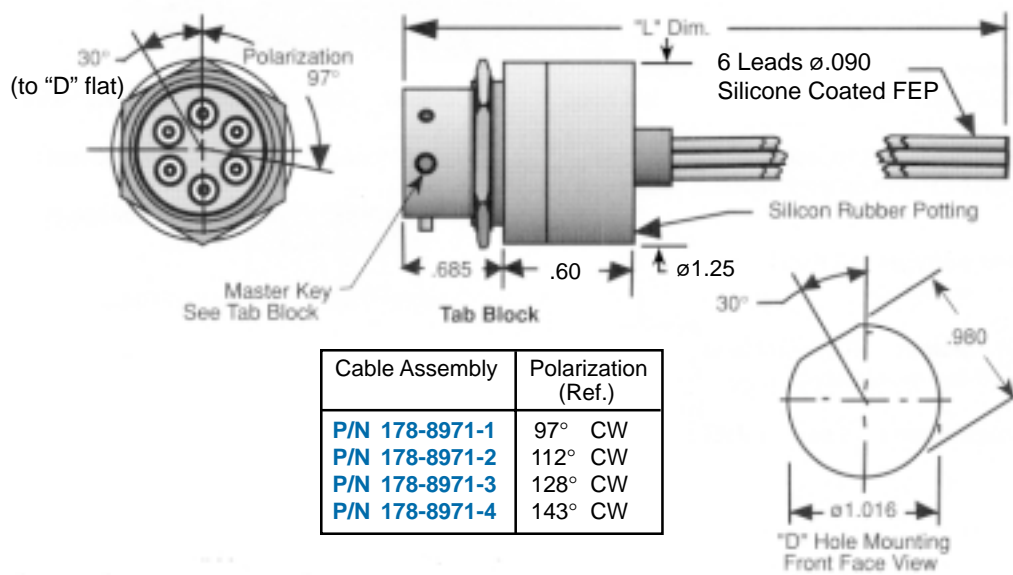


P/N 178-8971

Single Ended Receptacle Cable Assembly

Mating

See Note 2



NOTES: 1. Mates all Magnum Plus series receptacles and receptacle cable assemblies with compatible polarization  
2. Mates all Magnum Plus series plug cable assemblies with compatible polarization