

4.0 Meter Light Quick Deploy Antenna

The Kratos 4.0 m Light Quick Deploy is a highly flexible antenna system designed to operate on almost any satcom band and in many configurations. The entire reflector structure consists of lightweight carbon fiber panels, with multiple mounting scenarios, and can be ordered in motorized or nonmotorized versions. With feeds available to address UHF-, L-, C-, X-, Ku-, K- and Ka-bands, as well as low PIM feeds. A very versatile Antenna System.

This antenna supports a variety of interchangeable feeds which are engineered for easy removal and replacement in the field. The reflector is constructed with a precision-formed honeycomb core and a carbon fiber skin which assures durability and high performance. The reflector is easily assembled with nineteen panels.

The Light Quick Deploy is designed to be lightweight, with maximum stiffness, yet offers compact and highly robust components. The versatile architecture makes it ideal for launching highly divergent equipment applications using a single, flexible, modular and cost-effective equipment base.

Electronically engineered to operate at multiple frequencies, A Kratos 4.0 meter Light Quick Deploy is capable of transmitting and receiving signals under demanding wind loads and surviving winds up to 100 mph. The tactical version can be deployed by two trained individuals within 30 minutes.



Features

- Multiple configurations available
- Nineteen reflector panels
- Motorized or non-motorized axes
- Pedestal mount
- ISO shippable
- Lightweight reflector, high accuracy mount for tracking
- Interchangeable feed systems for quick field swaps
- Meets Mil-Spec standards
- Designed to comply with MIL-STD-810F
- Utilized with ARSTRAT Certified terminals
- Low PIM X-band available

Compliance

| | |
|-----------------------------|----------------------|
| ITU-R S.580-6, 465-6, 732-1 | C, X, Ku, K, Ka Band |
| US FCC 25.209 | X, Ku, K, Ka Band |

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The Light Quick Deploy Antennas are designed around a base configuration to provide modular flexibility and configurability. In addition, they are designed to be rugged and to allow for maximum compactability to withstand the demands and rigors of transport in military and commercial aircraft. The feeds are also palletized to allow for easy transport and for fast band changes.

Environmental Performances

| Wind Loading | | |
|-------------------|--|-------------------------------------|
| Operating | 30 mph gusting 45 mph | |
| Survival | 60 mph ballasted 94 mph stowed | |
| Temperatures | | Survival |
| Range | Operational -40°C to +60°C (-40°F to +140°F) | -58°C to +71°C (-50°F to +160°F) |
| Seismic | 1G Vertical and Horizontal; 8.3 Richter, 11 Mercalli | |
| Solar Radiation | 360 BTU/h/ft ² (1135 watts/m ²) | |
| Rain | Up to 10 cm/h (4 in/h) | |
| Relative Humidity | 0% to 100% | |
| Shock | As encountered by Air, Ship, Rail and Truck | |
| Atmospheric | As encountered in moderately corrosive coastal and industrial environments | |
| Altitude | | Survival |
| Range | Operational Up to 12,000 ft | Up to 40,000 ft |

Mechanical Performances

| Reflector | Multi-Band Intergangeable |
|-----------------------|--|
| Color | White (other colors available) |
| Material | Carbon Fiber |
| Segments | Nineteen Panels |
| Feed Type | Axisymmetric Gregorian dual optics |
| Mount Type | EI over Az Pedestal |
| Pointing Range | |
| Azimuth | ± 60° Continuous (NOMINAL) |
| Elevation | 0° to 90° of Boresight (NOMINAL) |
| Polarization | ± 90° |
| Maximum Travel Limits | User defineable within mechanical limits |
| Operate Limits | Hardware and Software Settable |

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Electrical Specifications

| | |
|-------------------------|---|
| Controller Type | Multi Axis Tracking Controller with Auto Acquisition Assist |
| Controller Package | Single Box Outdoor Motor Controller 3RU 19" EIA Rack Mounted Indoor Controller |
| Prime Power | Indoor 110-220 VAC 50/60 Hz (Universal) Outdoor 24 VDC, 120 VAC (Field Configurable) |
| Power Consumption | 20A or less @ 24VDC, 5A @ 120VAC (est.) |
| Motor (Az, El, and Pol) | 24 VDC |
| Remote IDU Interconnect | Ethernet |
| Remote Interface | Remote Operation Software, SNMP V1 & V2c |
| IDU/ODU IFL | Multi Mode Fiber Optic Cable |
| Optional Sensors | GPS, Compass, and Inclinometers |
| Angle Transducers | 19 bit optical encoder |
| Angle Resolution | 0.0010° |
| Positioning Accuracy | 0.0050° (est) |

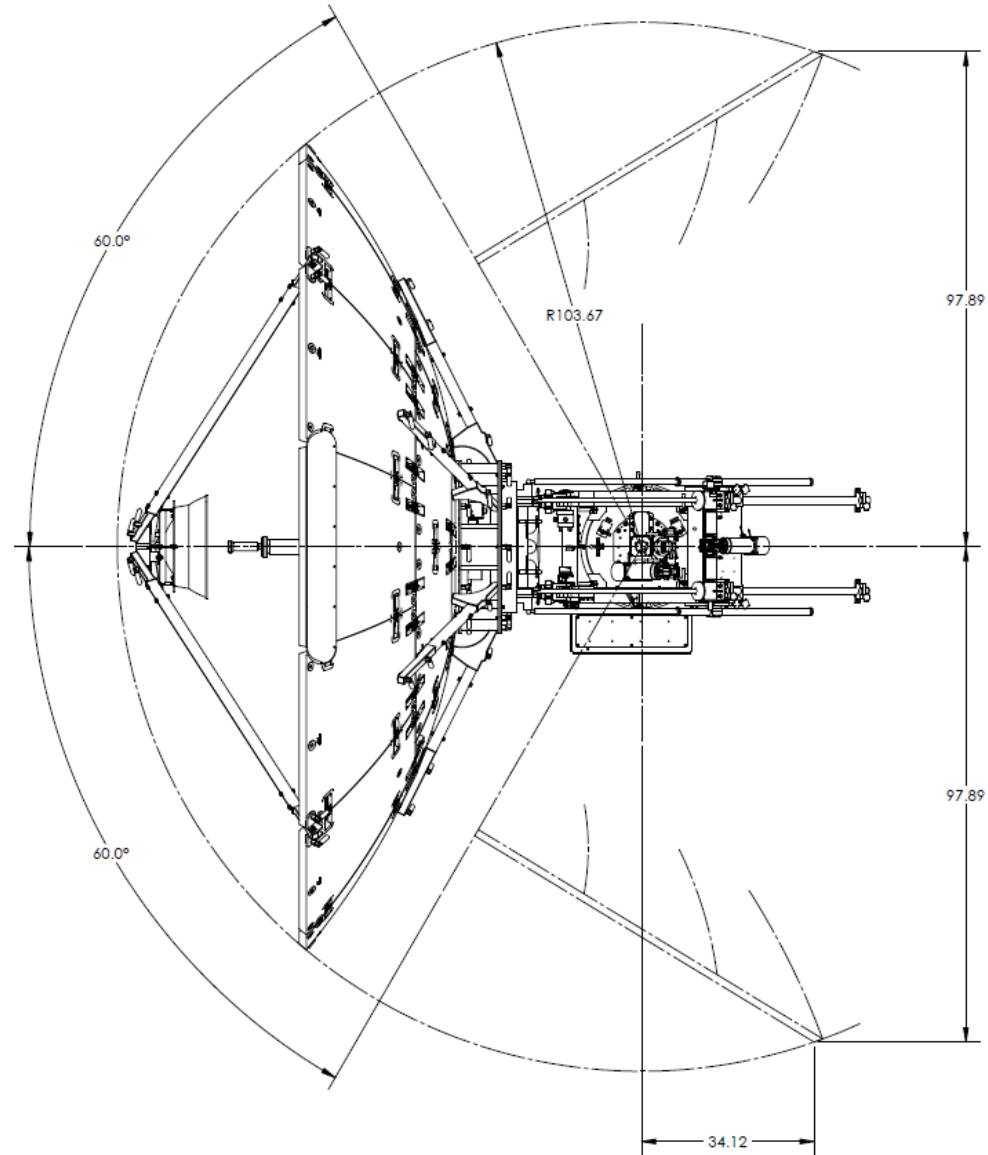
Shipping Information

| Packing Options | |
|---|----------------|
| Standard Commercial Domestic Pack | Included |
| Service and materials For Ocean Transport Packaging of 4.0M product | CRATE-40-OCEAN |
| Service and materials For Air Transport Packaging of 4.0M product | CRATE-40-AIR |
| Service and materials for enclosed crating a 4.0M product for transport | CRATE-40-PACK |
| Required Shipping Container | |
| Standard 20 ft land/sea container | Quantity 1 |

Shipping container information is given for basic configuration and may vary depending on the selected options, please contact Kratos for specific container loading plan.

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4.0m LQD Dimensional Drawings Ground Mount Pedestal

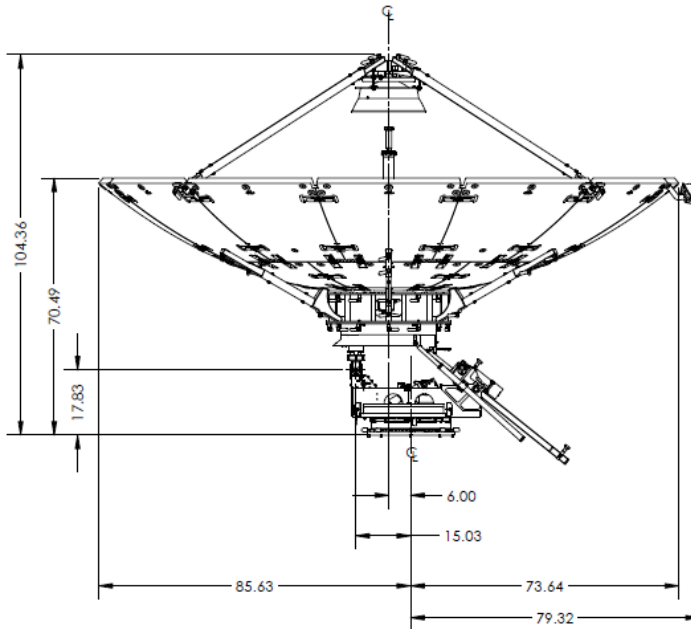


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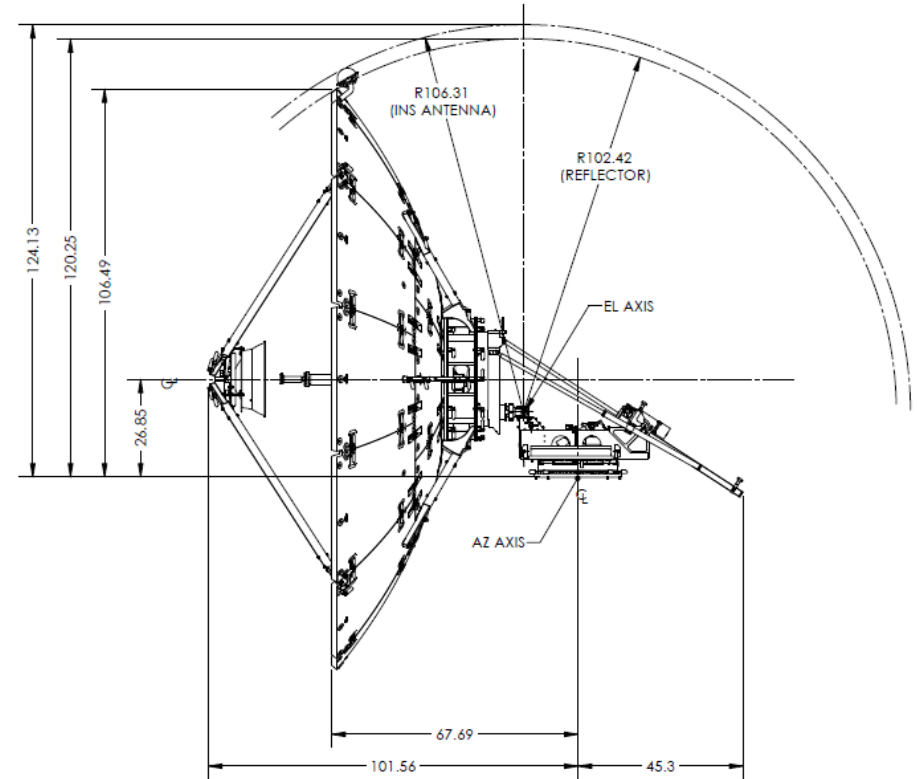
4.0 Meter Light Quick Deploy Antenna

4.0m LQD Dimensional Drawings Ground Mount Pedestal

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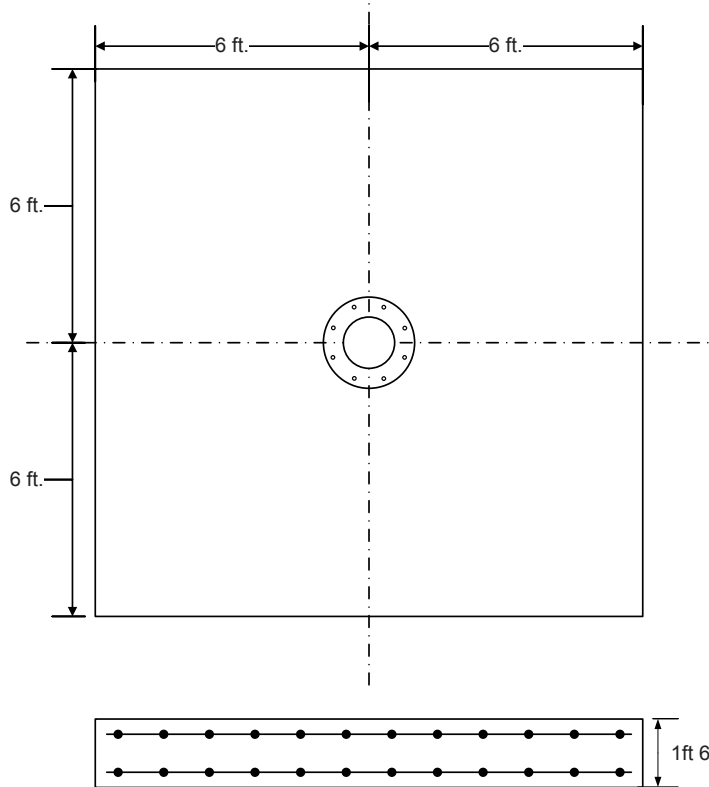
ANTENNA AT 90 DEGREES ELEVATION



ANTENNA AT 0 DEGREES ELEVATION

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4.0m LQD Typical Foundation Design



Foundation information are provided in special bulletin, please contact Kratos.

| | |
|---|---|
| Soil Bearing Capacity, | 2000 lb/ft ² (9770 kg/m ²) |
| Reinforcing Steel, | 821 lbs (372 kg) |
| Concrete Compressive Strength, | 3000 psi (211 kg/cm ²) |
| Foundation Size: | (for specific standard soil and typical design) |
| Length | 12 ft (3.66 m) |
| Width | 12 ft (3.66 m) |
| Depth | 1 ft 6 in (0.457 m) |
| Concrete Volume | 8 yd ³ (6.1 m ³) |
| NOTE: Other typical foundation designs are available. Soil borings and foundation analysis should be performed by a qualified civil engineer. | |

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Motorization

One motorization system is available for this antenna: the NGC tracking system that can support Steptrack, Smartrack and Ephemeris orbital tracking.

Motor Kit

Azimuth/Elevation Motor Kit is part of the motorizable positioner

Polarization Drive Kit (DC Step Motors)

Part of the Motorized Feed System

Outdoor Unit Controller

| | |
|------------------|-------------|
| ODU 24VDC 5 AMPS | NGC-ODU-NMD |
|------------------|-------------|

Antenna controller, motorization and options are detailed in specific bulletins, please contact Kratos.

Antenna Configurations

Reflectors

| | |
|--|-----------|
| Nineteen Panels Lightweight 4.0 Meter Dual Optics Gregorian Feed Antenna Reflector | NMD-40-19 |
|--|-----------|

Positioners

| | |
|------------------------|-----------|
| Motorizable Positioner | 4MLQD-CAP |
|------------------------|-----------|

Motorization and NGC Options

| Indoor | |
|------------------|--|
| NGC2-IDU | NGC Rack Mounted Antenna Controller W/LCD Touch Panel, 4 RU Unit |
| NGC2-IDU-1 | NGC Rack Mounted Antenna Controller, 1 RU Unit |
| NGC2-IDU-2 | NGC Rack Mounted Antenna Controller, 2 RU Unit |
| NGC2-002-06 | NGC2-IDU Spectrum Analyzer Card - Analog; 1 X 6 Multi-Input Switch |
| NGC2-002-EDR | NGC2-IDU Spectrum Analyzer Card - Analog; Enhanced Dynamic Range |
| NGC2-002-EDR-06 | NGC2-IDU Spectrum Analyzer Card - Analog; 1 X 6 Multi-Input Switch; Enhanced Dynamic Range |
| NGC2-004-03 | NGC2 IDU, L-Band Internal Beacon Receiver |
| NGC2-006 | NGC2-IDU Emergency Stop Button |
| NGC2-007 | NGC2-IDU 10 MHz Reference GPS Based Source |
| NGC2-008 | NGC2-IDU Power Supply |
| NGC2-009 | NGC2-IDU Rack Slides |
| NGC2-100 | NGC2-IDU HEO Tracking Software |
| NGC2-101 | NGC2-IDU Step Tracking Software |
| NGC2-102 | NGC2-IDU Smartrack Software |
| NGC2-103 | NGC2-IDU Predictive Tracking Software |
| NGC2-104 | NGC2-IDU Full Tracking Capability Software |
| NGC2-105 | NGC2-IDU Acquisition Assist |
| NGC2-106 | NGC2-IDU Remote Access Software Package |
| NGC2-107 | NGC2-IDU Enhanced Spectrum Analyzer Function Software |
| NGC2-108 | NGC2 Receive Pattern Testing Tool |
| NGC2-109 | Redundancy/Switching Control Software |
| NGC2-111 | Sand/Dust Deviator Feature |
| NGC2-112 | Carrier Monitoring |
| NGC2-119 | NGC2 Redundancy Control Software |
| Outdoor | |
| 7586787 | NGC Handheld Terminal with Mil Spec Connector |
| NGC-NMD-LIMIT | NOMADIC POSITIONER LIMIT SWITCH KIT,CABLE & HDW |
| NGC-NMD-LOCKOUT | Nomadic Positioner Stow Kit Cable &HDW |
| 24VDCSPS | Nomadic switching power supply, 24VDC |
| NGC-SEN-4-VN-NMD | Nomadic INS Sensor Kit, High Accuracy |

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Feed Matrix 4.0m LQD

| UHF- BAND FEED SYSTEMS | PORT | CP Left Hand | CP Right Hand | 225 - 400 MHz Rx and Tx |
|------------------------|------|--------------|---------------|-------------------------|
| 1LHCPUHF-40CF | 1 | X | | X |
| 1RHCPUHF-40CF | 1 | | X | X |

| C- BAND FEED SYSTEMS | PORT | CP | LP | RX 3.625 - 4.2 GHz | RX 3.4 - 4.2 GHz | RX 4.5 - 4.8 GHz | TX 5.850 - 6.425 GHz | TX 5.725 - 6.650 GHz | TX 5.725 - 6.725 GHz | TX 6.725 - 7.025 GHz |
|----------------------|------|----|----|--------------------|------------------|------------------|----------------------|----------------------|----------------------|----------------------|
| 2CPC-40CF | 2 | X | | X | | | X | | | |
| 2CPNC-40CF-109 | 2 | X | | X | | | X | | | |
| 2CPWCR-40CF | 2 | X | | | X | | | | | |
| 2LPC-40CF | 2 | | X | X | | | X | | | |
| 2LPCPWCR-40CF | 2 | X | X | | X | | | | | |
| 2LPUC-40CF | 2 | | X | | | X | | | | X |
| 2LPWCR-40CF | 2 | | X | | X | | | | | |
| 4CPNC-40CF-206 | 4 | X | | X | | | X | | | |
| 4LPNC-40CF | 4 | | X | X | | | X | | | |
| 4LPWC-40CF | 4 | | X | | | X | | | X | |
| 4LPCPWW-40CF-2-RS | 4 | X | X | | X | | | X | | |

| X- BAND FEED SYSTEMS | PORT | Low PIM | CP | RX 7.25 - 7.75 GHz | TX 7.9 - 8.4 GHz |
|----------------------|------|---------|----|--------------------|------------------|
| 2CPX-40CF | 2 | | X | X | X |
| 2CPXF-40CF | 2 | | X | X | X |
| 4CPX-40CF | 4 | | X | X | X |
| 2CPMX-40CF | 2 | X | X | X | X |
| 4CPMX-40CF | 4 | X | X | X | X |

RF Feed Specifications are detailed in specific bulletins, please contact Kratos.

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Feed Matrix 4.0m LQD

| Ku- BAND FEED SYSTEMS | PORT | LP | RX 10.7 - 12.75 GHz | RX 10.7 - 13.25 GHz | TX 13.00- 13.25 GHz | TX 13.75- 14.5 GHz | TX 13.75- 14.8 GHz |
|-----------------------|------|----|---------------------|---------------------|---------------------|--------------------|--------------------|
| 2LPKU-40CF-W | 2 | X | | X | | | X |
| 4LPKU-40CF | 4 | X | X | | | | X |
| 4LPWKU-40CF | 4 | X | X | | X | X | |

| K- BAND FEED SYSTEMS | PORT | LP | CP | RX 10.7 - 12.75 GHz | TX 17.3 - 18.4 GHz |
|----------------------|------|----|----|---------------------|--------------------|
| 2LPK-40CF | 2 | X | | X | X |
| 4LPK-40CF | 4 | X | | X | X |

| KA- BAND FEED SYSTEMS | PORT | LP | CP | RX 17.7 - 21.2 GHz | RX 18.3 - 20.2 GHz | RX 20.2 - 21.2 GHz | TX 27.0 - 30.05 GHz | TX 27.50 - 31.00 GHz | TX 30.0 - 31.0 GHz |
|-----------------------|------|----|----|--------------------|--------------------|--------------------|---------------------|----------------------|--------------------|
| 2LPCPKAR-40CF | 2 | X | X | X | | | | | |
| 4CPKA-40CF | 4 | | X | | | X | | | X |
| 4CPWWKA-40CF-206 | 4 | | X | X | | | | X | |
| 4LPKA-40CF | 4 | X | | | X | | X | | |

| Ku/K- BAND FEED SYSTEMS | PORT | LP | RX 10.7 - 12.75 GHz | TX 13.75- 14.5 GHz | TX 17.3- 18.4 GHz |
|-------------------------|------|----|---------------------|--------------------|-------------------|
| 6LPKUK-40CF-W | 2 | X | X | X | X |

RF Feed Specifications are detailed in specific bulletins, please contact Kratos.

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Antenna Options and Spares

| Anchor Bolt and Template Kits Option | |
|--------------------------------------|---|
| 302689 | Anchor Bolt and Template Kit for 4.0Meter Nomadic with PEDMNT |
| Heating Options | |
| GSS-40-1 | 4.0M Passive Snow Shield Cover |
| SSH12K-40-1 | 4.0M 4KW Electric Heater System |
| WSS-IC-100 | Interface Cable; 100ft |
| WSS-RMDP7 | Rack Mounted Remote Monitor Panel |
| Color Options | |
| NMD-33510 | Sandstone Color Painting for Reflector FS33510 |
| NMD-34096 | Olive Drab Color Painting for Reflector FS34096 |
| NMD-NPN-LG | Custom Color Painting for Reflector |
| Other Options | |
| NMD-40-LP | LOW PIM Antenna Configuration & Range Certification Test Service |
| NMD-TAC-TCASE | Tactical System Transit Case for 4.0M |
| PEDMT-40 | Pedestal Mount for 4.0 Meter; Galvanized |
| PEDMT-40-FSxxxxx | Pedestal Mount for 4.0 Meter; Podwer Coated to Match FS Color (xxxxx) |
| PEDMT-40-INT | Galvanized Pedestal Mount Interface Kit for 4.0 Meter |
| FTST | Feed System Testing |



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