

**1 YEAR**  
WARRANTY

# **Ω OMEGA™** **User's Guide**



Shown with DPU91 Transmitter  
(sold separately)

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**DPU90-WM, FP90UM, FP90IM, PHTX-27G,  
PHTX-275G, FPM-5000-LTCK, FPM-5000-MB**  
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This document includes assembly and installation information for the following products:

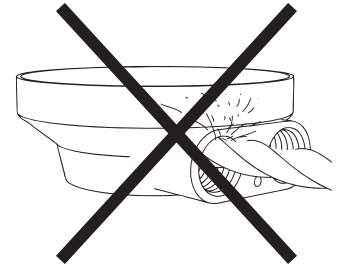
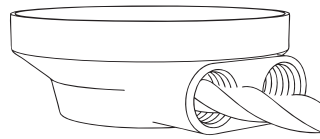
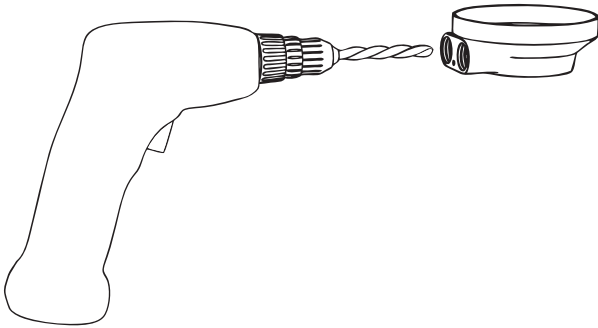
Page	Part No.	Description	Use with these products
3	FP90UM	Universal Mount NPT	DPU91, FT-90 Series, PHTX-271 Series, CDTX-90 Series
3	PHTX-27G	Universal Mount Junction Box	PHEH-275x, CDE-285x (refer to product manual for wiring)
3	PHTX-275G	Universal Mount Junction Box with pH/ORP EasyCal	PHEH-275x (refer to product manual for wiring)
4	FP90IM	Integral Mount NPT	DPU91, FP-8501/8502/8503
5	FPM-5000-LTCK	Liquid Tight Connector Kit	FPM-90IM, FPM-90UM. and DPU90-WM
6	FPM-5000-MB	1/4 DIN Mounting Bracket	Any 1/4 DIN instrument
6	DPU90-WM	Wall Mount Enclosure 1/4 DIN	DPU91P, DPU91-BC

## FP90UM, PHTX-27G, PHTX-275G Universal Mount Assemblies

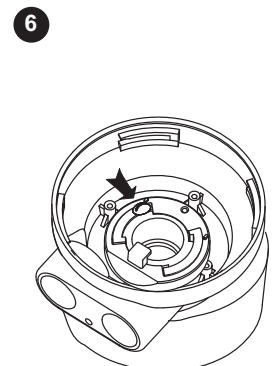
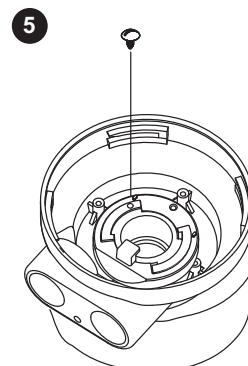
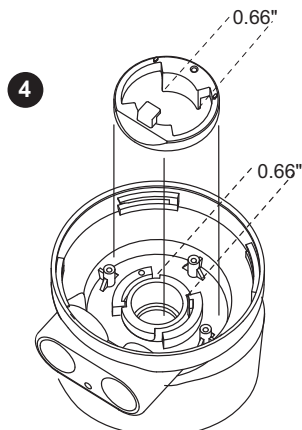
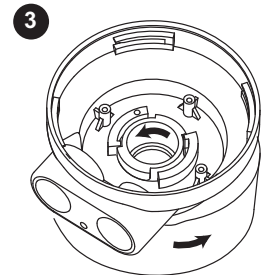
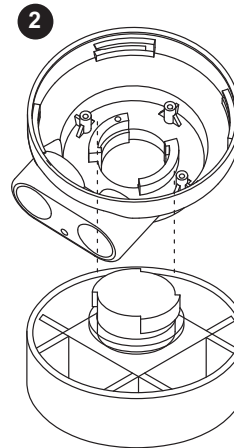
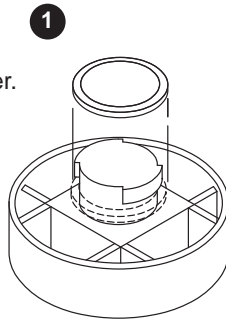
- Drill out conduit ports if necessary.
- Use universal adapter as template to mark and drill holes.
- For tank or wall mounting, install universal adapter and secure with screws.
- For pipe mounting, install universal mount and secure with clamps or tie wraps.



**CAUTION!**  
Failure to follow assembly instructions could result in severe personal injury!



1. Place gasket on universal adapter.
  2. Place conduit base on universal adapter.
  3. Twist clockwise to secure.
  4. Place locking ring inside conduit base.
- 5-6. Secure with screw.
- Connect transmitter (see transmitter manual).
  - Close unit, push and twist lock. Seal cable entry.



## FP90IM Integral Mount Assembly

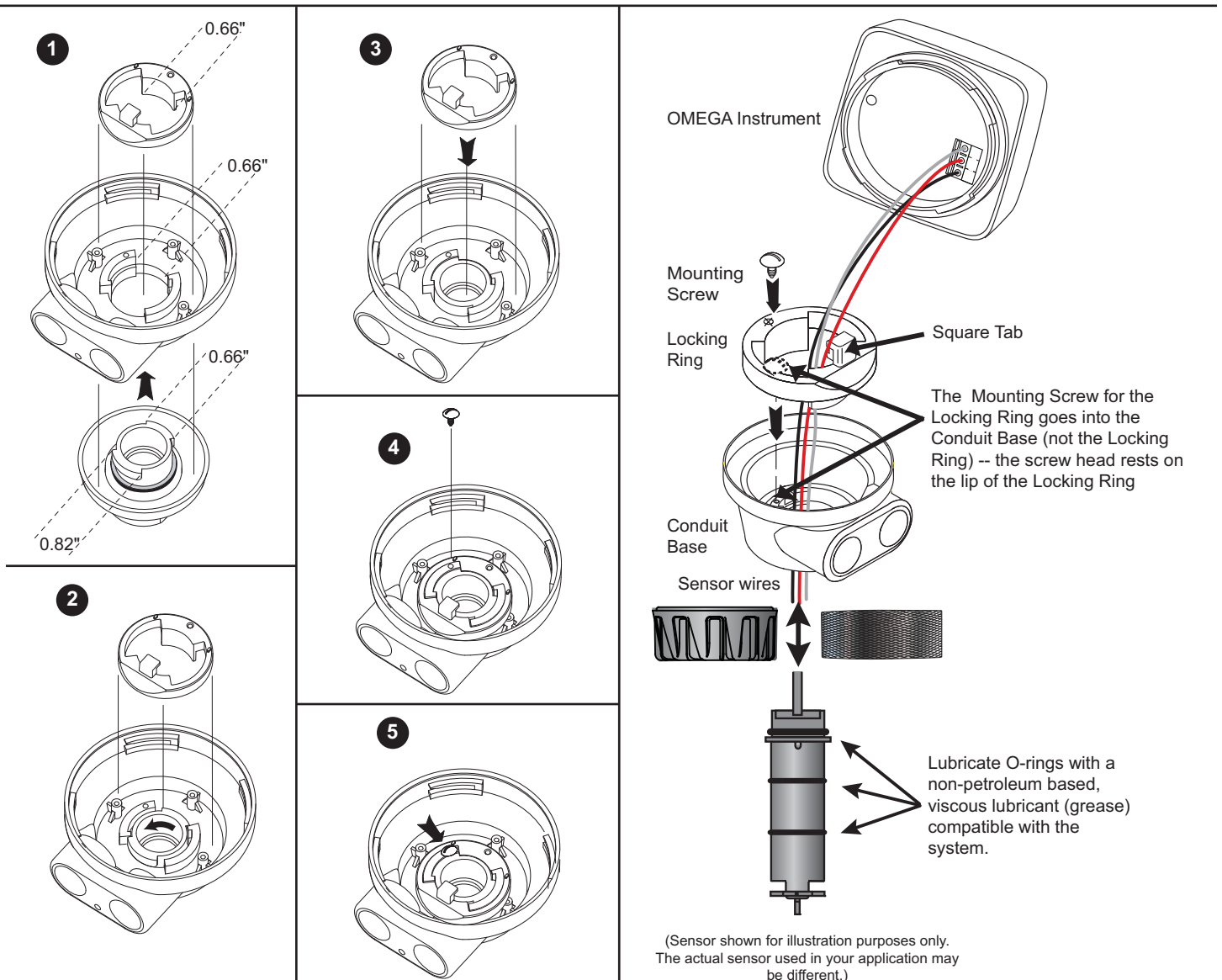
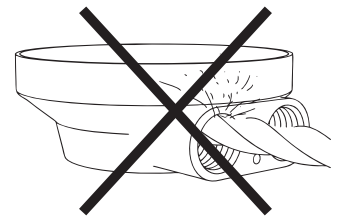
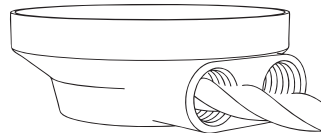
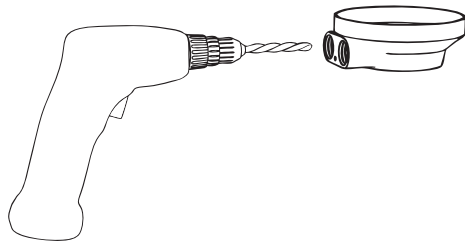
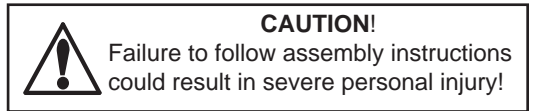
The FP-90 and DPU91 series flow transmitters can be mounted directly onto the FP-8501/8502/8503 series flow sensors.

- Integral mount may not fit between flanges on FP-51XX Series wafer-style fittings.
- Apply sealant to threaded areas.
- Mount the base so the conduit ports are pointing downstream.  
The attached display can be rotated at 90° angles for convenience.

- Drill out conduit ports if necessary.

1. Place ring nut on conduit base (ensure gasket is on flow sensor).
- 2-3. Install sensor through ring nut and conduit base.
3. Push and twist-lock sensor to secure.
- 4-5. Install locking ring.
5. Secure with screw.

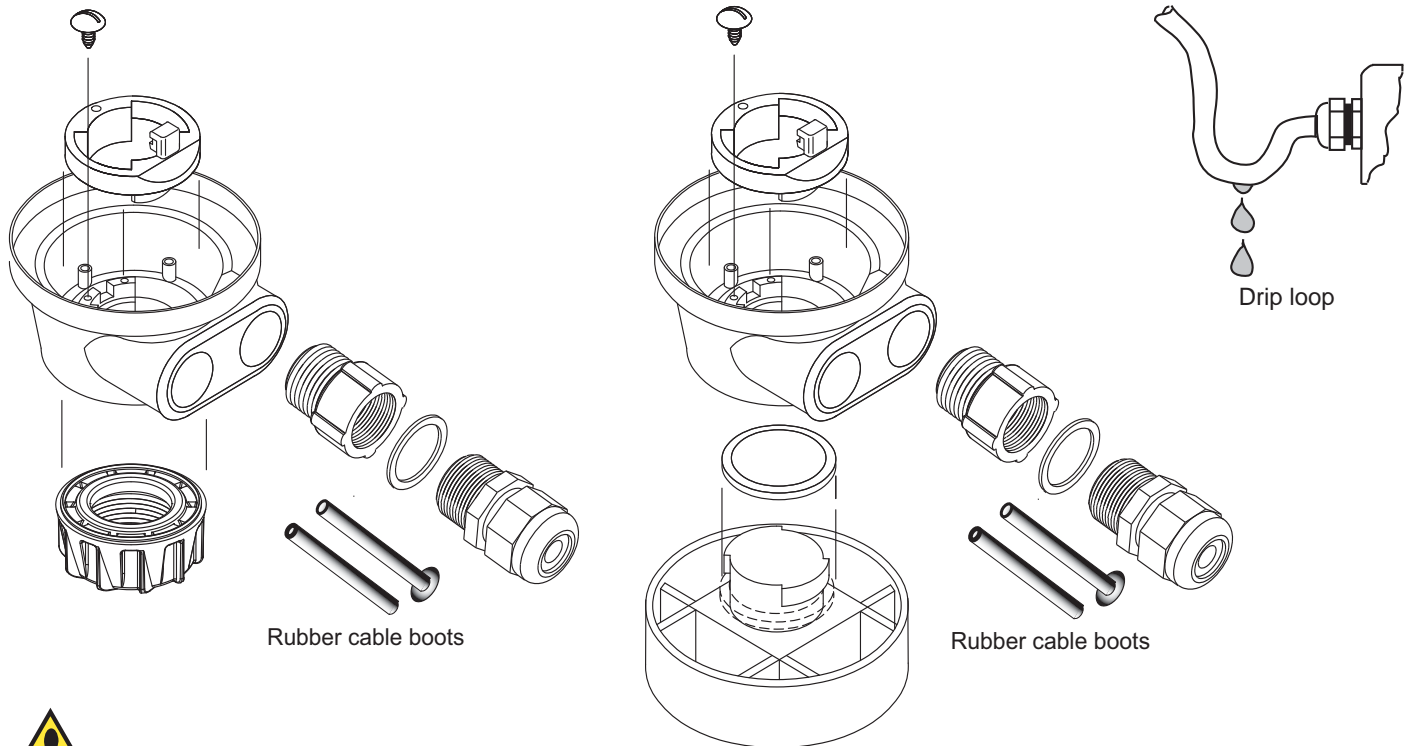
- Mount unit in pipe fitting. Adjust conduit base to align tab on sensor with notch in tee fitting (see sensor manual), hand tighten ring nut. Route cable through cable gland and connect to transmitter (see transmitter manual).
- Close unit, push and twist lock. Seal cable entry.



## FPM-5000-LTCK Liquid Tight Connector Kit

This kit contains three sets of ½ in. NPT connectors to seal cable ports in instrument panels and field-mounted instruments. Use with the NEMA 4X Rear Covers and with the Integral or Universal Assemblies discussed in this manual.

- The connector incorporates a rubber seal that will seal around cables with a diameter of 0.170 in. minimum to 0.470 in. maximum.
- Two types of cable boots can be used to seal around small or non-uniform cable circumferences:
  1. The straight boot is for cables from 0.05 in. to 0.175 in. diameter.
  2. The collar type boot is for cables from 0.088 in. to 0.24 in. diameter.
- In some cases RTV or other sealants in addition to cable boots may be necessary.
- Always use the rubber seal supplied with cable gland. The cable boots should be inserted through the seal.
- Mount the instrument so the cable ports face to prevent moisture seepage into the unit. If the cable port must be mounted pointed upward or on the side of the instrument, provide a drip loop to direct moisture away from the unit.



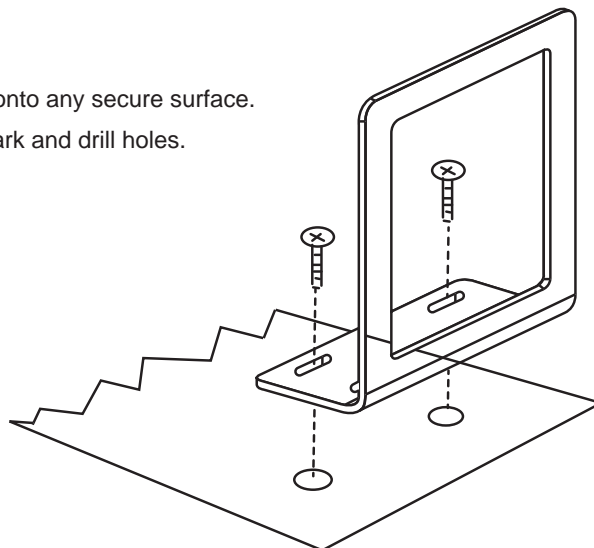
### Chemical Compatibility Warning

The retaining nuts of paddlewheel and OmegaMag sensors, as well as pH and ORP sensors, are not designed for prolonged contact with aggressive substances. Strong acids, caustic substances and solvents or their vapor may lead to failure of the retaining nut, ejection of the sensor and loss of the process fluid with possibly serious consequences, such as damage to equipment and serious personal injury. Retaining nuts that may have been in contact with such substances e.g. due to leakage or spilling, must be replaced. Contact your OMEGA sales representative.

## FPM-5000-MB Mounting Bracket

The mounting bracket allows for installation onto any secure surface.

1. Use mounting bracket as template to mark and drill holes.
2. Secure mounting bracket with screws.



## DPU90-WM Wall Mount Enclosure ¼ DIN

The Wall Mount Enclosure is a compact enclosure that works with the Omega DPU91 Transmitter, as well as other ¼ DIN panel mount instruments. It is equipped with a ¼ DIN cutout at the front for the instrument (sold separately) and two ½" holes at the base for the conduit and sensor wiring. Mounting hardware and liquid tight connectors are included for a quick and easy installation.

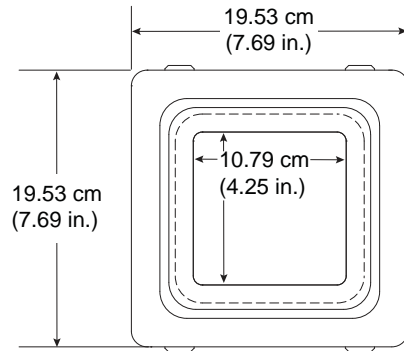
### Specifications

#### General

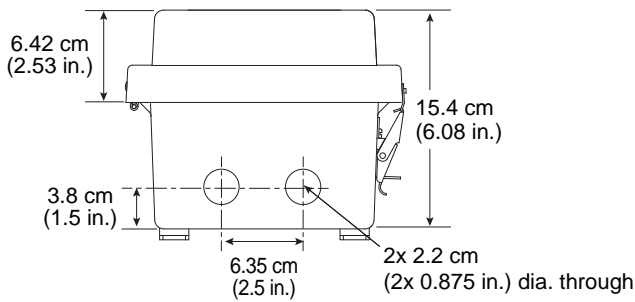
Enclosure type..... NEMA 4X  
 Material..... Fiberglass reinforced polyester,  
 light gray  
 Hinges and Latch..... 304SS  
 Mounting Hardware:  
 Brackets and Screws ..... 304SS  
 Inserts ..... Brass  
 Liquid Tight Connectors..... Nylon

#### Approvals and Standards

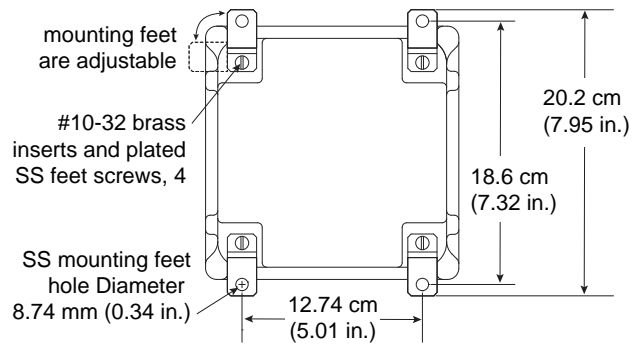
RoHS Compliant  
 UL listed  
 UV stabilized for outdoor use



Front View



Bottom View



Back View

### Installation Instructions

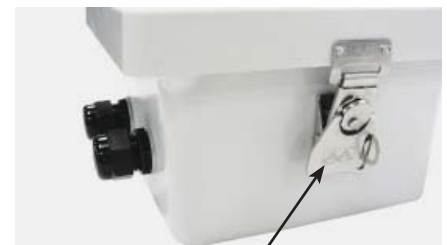
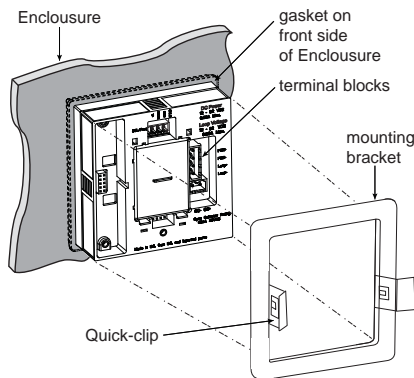
1. Install the Wall Mount Enclosure to your wall location using the Enclosure's mounting hardware or brass inserts (not shown).
2. Install liquid tight connectors through the conduit holes as needed for your application.
3. Place gasket on instrument.
4. Slide instrument from front through the door cutout of the Wall Mount Enclosure.
5. Slide mounting bracket over back of instrument until Quick-clips snap into latches on sides of instrument.
6. Complete the appropriate electrical connections as described in Omega DPU91 Transmitter product manual.
7. Close and securely latch the Enclosure.



Conduit holes



Liquid tight connectors



Latch



## WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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## RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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