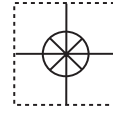
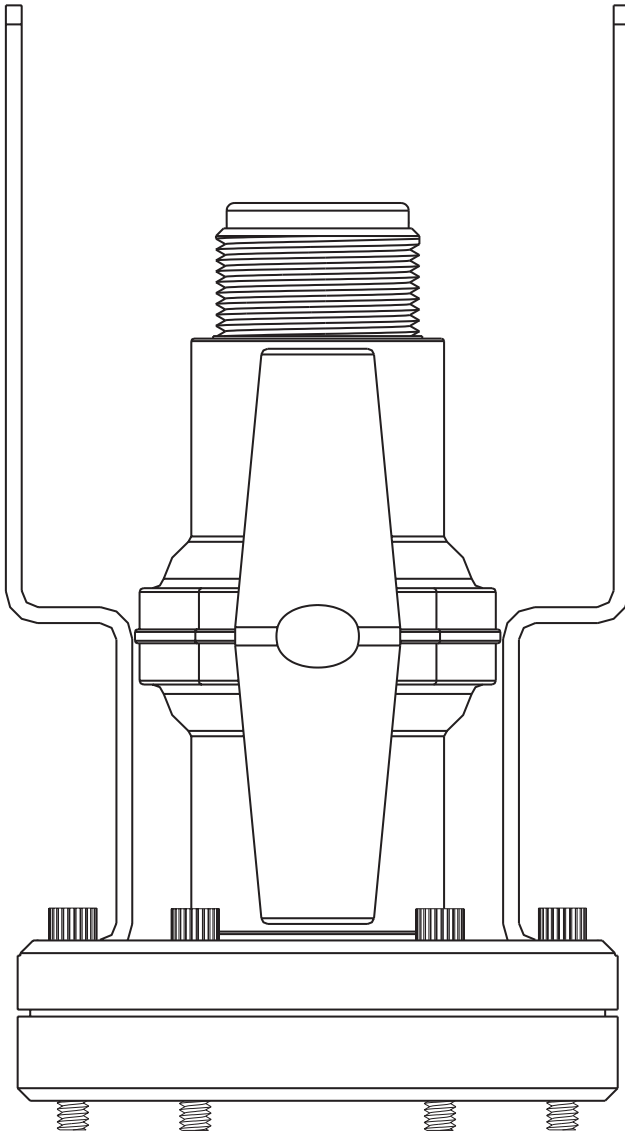


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User's Guide



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FP-319 Flow Wet-Tap Assembly



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The information contained in this document is believed to be correct, but OMEGA Engineering, Inc. accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

WARNING: These products are not designed for use in, and should not be used for, patient-connected applications.

OMEGA FP-319 Flow Wet-Tap Assembly

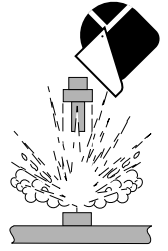
WARNING!



SAFETY INSTRUCTIONS

1. The FP-319 Flow Wet-Tap Valve may only be installed into, and removed from, non-pressurized systems (0 psig).
2. System pressure must be 25 psi or less prior to sensor insertion or removal.
3. Stay clear of sensor stroke area and safety cable during sensor removal.
4. Confirm chemical compatibility before use.
5. Do not exceed maximum temperature/pressure specifications.
6. Wear safety goggles or faceshield during installation/service.
7. Do not alter product construction.

Failure to follow safety precautions may result in severe personal injury!



1. Wet-Tap Valve Installation

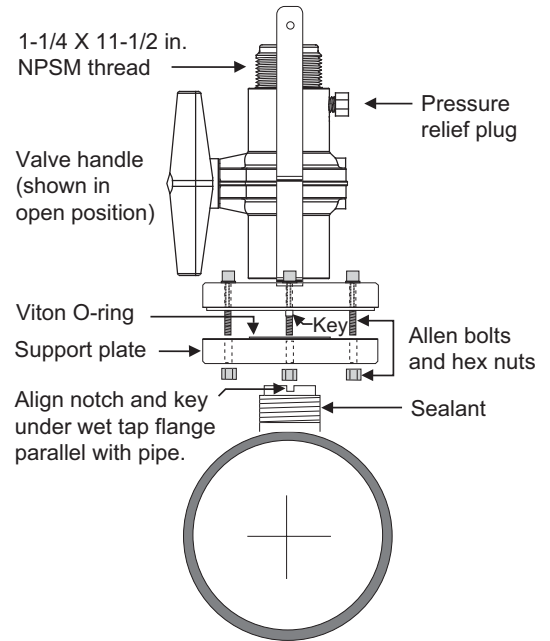
The OMEGA FP-319 Flow Wet-Tap Assembly attaches directly to OMEGA installation fittings to enable flow sensor removal without system shutdown. It consists of a flange and support plate which thread onto the pipe fitting insert, and a PVC ball valve through which an extended length flow sensor is inserted into the pipe.



Caution: The FP-319 Flow Wet-Tap Valve may only be installed into, and removed from, non-pressurized systems (0 psig).

Procedure

1. Remove six hex nuts and bolts from the Wet-Tap flange. Separate the support plate from the main assembly. Be sure that the Viton O-ring is properly seated in the support plate groove.
2. Apply sealant to the pipe fitting insert threads to prevent leaks.
3. Screw support plate onto pipe fitting insert (O-ring side facing up). It must be threaded completely down until the notches at the top of the pipe fitting insert are exposed.
4. Mount the main Wet-Tap Assembly on the support plate. Make certain the alignment keys on the flange mate with the notches on the pipe fitting insert.
5. Loosen support plate (holding the main Wet-Tap Assembly in place) until it resists slightly. Loosen an additional 1/4-turn to seat O-ring.
6. Replace the six hex nuts and bolts to secure the Wet-Tap Assembly in place. Adjust the support plate position as necessary to align screws.
7. Check the pressure relief plug on Wet-Tap Assembly. It must be closed finger tight to prevent leaks.
8. Close ball valve by turning the handle to the fully closed position (parallel with pipe).



2. Specifications

Materials

- Body: PVC
- Ball seat: PTFE
- O-rings: FPM

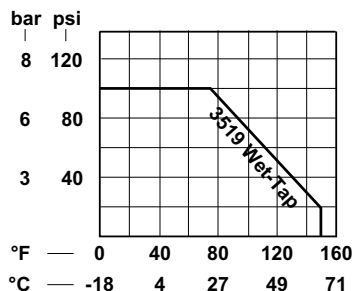
Standards

- Manufactured under ISO 9001 and 14001

Fluid Conditions

Pressure/Temperature Ratings:

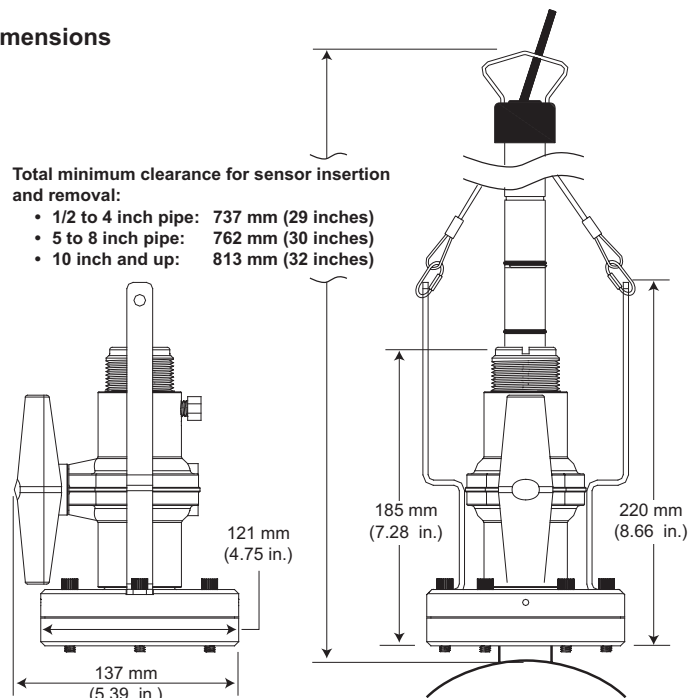
- 7 bar max. @ -18 to 20°C (100 psi max. @ 0 to 68°F)
- 1.4 bar max. @ 66°C (20 psi max. @ 150°F)



Dimensions

Total minimum clearance for sensor insertion and removal:


- 1/2 to 4 inch pipe: 737 mm (29 inches)
- 5 to 8 inch pipe: 762 mm (30 inches)
- 10 inch and up: 813 mm (32 inches)




3. Flow Sensor Insertion/Removal

To insert the flow sensor:

1. Lubricate the sensor O-rings with a lubricant compatible with your process and the sensor materials of construction. Do not use petroleum based lubricants that will attack the o-rings.
2. Carefully insert the sensor into the FP-319 valve assembly until the first two O-rings seat inside the bore. (Figure 1)
 - **Do not damage the rotor on closed ball valve.**
3. Using the clamps, attach the sensor safety cable to the FP-319 assembly brackets (hand tighten only).
4. Pull the flow sensor upward to remove slack in the safety cables. (Figure 2)

 **Warning:** Safety cables are factory installed at precise length. DO NOT attempt to service or replace safety cables.

 **Warning:** System pressure must be 25 psi or less prior to sensor insertion or removal. 

5. Open the ball valve. (Figure 2).
6. Push the flow sensor into the FP-319 assembly with a twisting motion.
 - Turn the sensor so the arrows on the black conduit cap point in the direction of flow.
 - When properly aligned the sensor bale will be parallel with the pipe. (Figure 3)

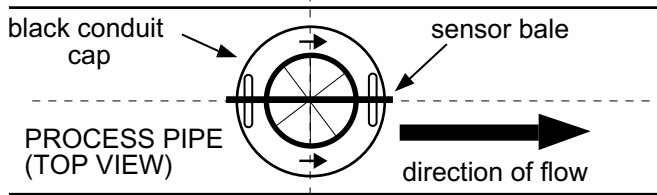


Figure 3

7. Align the tabs under the sensor cap with the notches on the fitting insert and tighten the sensor cap. (Figure 4)
 - **HAND TIGHTEN ONLY.** DO NOT use any tools that may damage plastic parts.

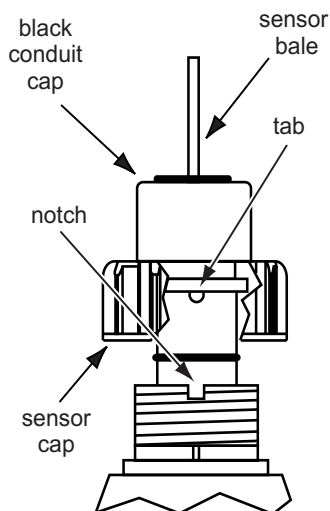


Figure 4

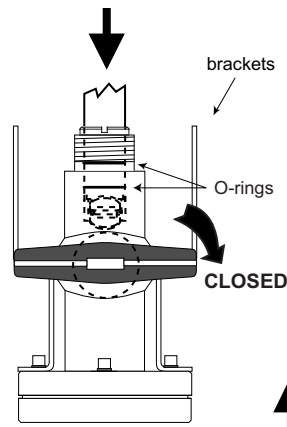


Figure 1

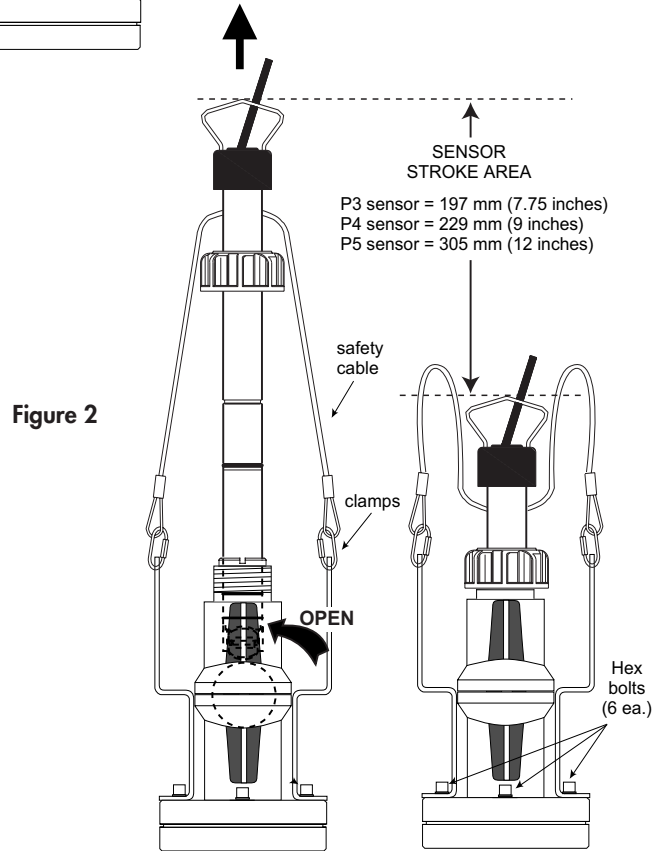





Figure 2

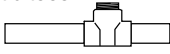








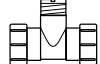
To remove the flow sensor:

 **Warning:** System pressure must be 25 psi or less prior to flow sensor insertion or removal. Stay clear of sensor stroke area and safety cable during sensor removal. 

 Check the six (6) Hex bolts (Figure 2) prior to unscrewing the sensor cap. If bolts are loose, tighten securely before proceeding.

1. Unscrew the sensor cap. (DO NOT use any tools that may damage plastic parts.)
2. Carefully pull the flow sensor upward with a twisting motion until the safety lanyards are fully extended. (Figure 2)
3. Close the ball valve. (Figure 1)
4. Loosen the relief plug to depressurize the sensor area.
5. Disconnect the sensor safety cable clamps from the FP-319 assembly brackets.
6. The sensor can now be safely removed.

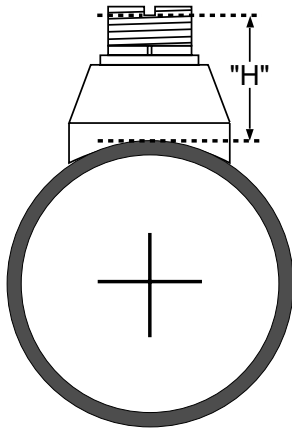
4. OMEGA Fittings

Type	Description	Type	Description
Plastic tees 	<ul style="list-style-type: none"> 0.5 to 4 inch versions PVC or CPVC 	Carbon steel & stainless steel threaded tees 	<ul style="list-style-type: none"> 0.5 to 2 inch versions
PVC Glue-on Saddles 	<ul style="list-style-type: none"> Available in 10 and 12 inch sizes only Cut 2-1/2 inch hole in pipe Weld in place using solvent cement 	Carbon steel & stainless steel Weld-on Weldolets 	<ul style="list-style-type: none"> 2 to 4 inch, cut 1-7/16 inch hole in pipe Over 4 inch, cut 2-1/4 inch hole in pipe See section 5 below for details
PVC Saddles 	<ul style="list-style-type: none"> 2 to 4 inch, cut 1-7/16 inch hole in pipe 6 to 8 inch, cut 2-1/4 inch hole in pipe 	Metric PVC-U Saddle 	<ul style="list-style-type: none"> For pipes DN 65 to 200 mm Requires a 30 mm diam. hole in the pipe
PP Clamp-on Saddles 	<ul style="list-style-type: none"> Available in 10 and 12 inch sizes only Cut 2-1/4 inch hole in pipe 	Metric Wafer Fitting 	<ul style="list-style-type: none"> For pipes DN 65 to 200 mm PP or PVDF
Iron Strap-on saddles 	<ul style="list-style-type: none"> 2 to 4 inch, cut 1-7/16 inch hole in pipe Over 4 inch, cut 2-1/4 inch hole in pipe Special order over 12 inch 	Metric Union Fitting 	<ul style="list-style-type: none"> For pipes from DN 15 to 50 mm PP or PVDF

Consult the K-factor section of the OMEGA flow sensor instruction manual for a complete listing of installation fittings.

5. H-Dimensions

The plastic sensor insert in the Weldolet or Brazolet fitting MUST be removed before the welding process. When reinstalled, it is important that the insert be threaded to the proper height ("H" dimension).



Part Number Carbon Steel	"H" dimensions		Part Number		"H" dimension	
	inches	mm	Stainless Steel	Copper/ Bronze	inches	mm
FP-5325CS	2.33	59.18	FMG-5325	FP-5325BR	2.33	59.18
FP-5330CS	2.32	58.92	FMG-5330	FP-5330BR	2.32	58.92
FP-5340CS	2.30	58.42	FMG-5340	FP-5340BR	2.30	58.42
FP-5350CS	3.09	78.48	FMG-5350	FP-5350BR	3.09	78.48
FP-5360CS	2.96	75.18	FMG-5360	FP-5360BR	2.96	75.18
FP-5380CS	2.73	69.34	FMG-5380	FP-5380BR	2.73	69.34
FP-5381CS	5.48	139.19	FMG-5381	FP-5381BR	5.48	139.19
FP-5382CS	5.25	133.35	FMG-5382	FP-5382BR	5.25	133.35

6. Ordering information

Part Number	Description
FP-319	PVC wet-tap valve (sensor not included)
FMK-515-3P3	Polypro extended length paddlewheel sensor (0.5 to 4 in.)
FMK-515-3P4	Polypro extended length paddlewheel sensor (5 to 8 in.)
FMK-515-3P5	Polypro extended length paddlewheel sensor (10 to 36 in.)
FMK-2536-3P3	Polypro extended length low flow paddlewheel sensor (0.5 to 4 in.)
FMK-2536-3P4	Polypro extended length low flow paddlewheel sensor (5 to 8 in.)
FMK-2536-3P5	Polypro extended length low flow paddlewheel sensor (10 to 36 in.)
FP-3193	Wet-tap assembly with FMK-515-3P3 paddlewheel sensor (0.5 to 4 in.)
FP-3194	Wet-tap assembly with FMK-515-3P4 paddlewheel sensor (5 to 8 in.)
FP-3195	Wet-tap assembly with FMK-515-3P5 paddlewheel sensor (10 to 36 in.)
FP-3196	Wet-tap assembly with FMK-2536-3P3 low flow sensor (0.5 to 4 in.)
FP-3197	Wet-tap assembly with FMK-2536-3P4 low flow sensor (5 to 8 in.)
FP-3198	Wet-tap assembly with FMK-2536-3P5 low flow sensor (10 to 36 in.)



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 which wear are not warranted, including but not limited to contact points, fuses, and triacs.

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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:

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2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

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