

# TOWN OF MILO, NEW YORK

Department of Sewer and Water  
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## BUILDING SEWER AND GRINDER PUMP CONNECTION & CONSTRUCTION STANDARDS

- A completed application, which such application is available at Town Hall or at our website, for a new building sewer shall be submitted to the Code Enforcement Officer of the Town of Milo. Such application shall include:
  - A copy of the contractor's certificate of liability insurance, which shall have a minimum limit of \$1 million dollars for each occurrence.
  - A completed sewer easement that shall be filed by the Town Attorney at the Office of the Yates County Clerk against the deed of the subject lot of record.
  - Signature of the owner of the subject lot of record.
- No work shall start until approval has been granted by the Town of Milo. For that reason, the contractor shall contact the sewer and water operators of the Town of Milo prior to starting any work.
- The contractor shall contact Dig Safely – NY and request a utility stake-out prior to starting any excavation work.
- All materials and/or equipment shall be new and first quality. Damaged or faulty materials and/or equipment will not be accepted.
- An approved E/ONE grinder pump shall be installed to connect the building sewer. Such grinder pump shall be on a dedicated circuit that has an amperage rating mandated by the manufacturer. Lastly, the approved E/ONE grinder pump shall be installed in compliance with the manufacturer's installation instructions.
- An approved E/ONE Protect or Protect Plus control panel shall be installed. Such control panel shall house the alarm system on a separate circuit from the E/ONE grinder pump, with a "high level" visual and audible alarm. The audible alarm shall have an external manual "alarm silence" feature. The control panel shall have an alarm test feature. Lastly, the approved E/ONE Protect or Protect Plus control panel shall be installed in compliance with the manufacturer's installation instructions.



Image courtesy of Environment One Corporation. Used with permission.

**Figure 1 - E/ONE Protect Plus Control Panel**

- Pump tank shall be 24" diameter plastic basin providing 48" depth for the discharge line. Such basin shall be protected against flotation by appropriate anti-flotation devices. A minimum of 0.6 cubic yards of concrete shall be used.

- Corporation stop shall be 1 ¼" MPT X MPT, Brass, for tapping the 6" HDPE force main.
- Tapping saddle shall be 1 ¼" FPT X as required for connection to existing low pressure sewers.
- Tap shall be made by a contractor approved by the operators of the Town of Milo. Repair clamps (tapped or standard) shall be FORD All Stainless Steel Repair Clamps Style FSI 15 inches minimum in length with a full diameter rubber gasket. Please refer to attached FORD specification sheet for more information.
- Two check valves are required, which at least one check valve is located within the pump tank.
- A corrosion resistant shut-off valve shall be installed in the pump tank.
- Disconnect fitting shall be a union, compression type coupling for sewage.
- Curb stop / check valve assembly:
  - The curb stop / check valve assembly shall be a factory assembled integral unit as manufactured by the Lateral Connection Corporation or approved equal.
  - The assembly shall be fully supported in the trench by a solid concrete support block.
  - The curb stop / check valve assembly shall be located within the right of way at a public road or an approved location at a private road.
  - The curb stop box shall be manufactured of ABS with an enlarged "haunch" type base to protect the curb stop and connections from any direct vertical loading. The box shall have 36" ABS top and bottom sliding sections, with an extension range of 48" to 78".
  - The curb box shall utilize a cast iron lid with the word "SEWER" cast thereon.
- Building sewer shall be 1 ¼" DR 11 HDPE 160 PSI (IPS) solid black. Building sewer shall be a minimum of 48 inches deep, bedded in sand or placed in a PVC sleeve. A tracer wire shall be placed adjacent to the building sewer or in the sleeve. The tracer wire shall be brought up to the top of the pump tank or basin and secured in a manner so it is accessible for a locator connection. The tracer wire shall also be brought up through the curb stop and secured in a similar manner. Lastly, the tracer wire shall be green in color, #12 AWG high strength copper clad steel conductor (HS-CCS) insulated with 30 mil HDPE insulation and rated for direct burial at 30 volts (Copperhead Industries or approved equal).
- The water service and building sewer shall be separated by 5' of undisturbed or compacted earth. Sewer mains and water mains shall be separated by 10' of undisturbed or compacted earth as mandated by NYSDOH and the 10 States Standard.
- A separate and independent grinder pump shall be provided for each building. The Town of Milo may consider exceptions for extenuating circumstances on a case-by-case basis.
- All electrical work shall be installed in accordance to the applicable provisions of the National Electric Code (NEC) and be inspected by an approved electrical inspection agency. Conduit must enter E/ONE Protect or Protect Plus control panel from bottom and be sealed per NEC section 300.5 & 300.7.
- Class 1 or Class 2 backfill material as defined by ASTM 2321 shall be used for backfill. Crushed stone and gravel backfill materials offer an advantage since they typically reach a compaction level of 90 to 95 percent standard density with minimal compaction. Another option is flowable fill (i.e., low slump concrete). This is particularly attractive when installing grinder pump stations in augured holes where tight clearances make it difficult to assure proper backfilling and compaction with dry materials.
- INFLOW AND INFILTRATION (I&I). It is prohibited to discharge water from catch basins, basement or footer drains, floor drains, cooling water, sump pumps, downspouts/gutters, drainage pipes, swimming pools or similar graywater into the building sewer.
- REQUIRED INSPECTIONS. The installation of a building sewer, E/ONE grinder pump and E/ONE Protect or Protect Plus control panel shall be inspected by the operators of the Town of Milo prior to backfilling. Failure to have building sewer, E/ONE grinder pump and E/ONE Protect or Protect Plus control panel inspected shall cause the operator to refuse sewer service to such structure.
- REQUIRED SITE PLAN. A site plan, which can be hand drawn, with measurements from two points taken from the structure to the curb stop and the grinder pump shall be submitted to the operator of the Town of Milo. Failure to provide such site plan shall cause the operator to refuse sewer service to such structure.

# Ford All Stainless Steel Repair Clamps

## Style FS1 (single section) Operating Range .40" (5.14" and larger)

ANSI/NSF Standard 61  
see page L-3

MEETS  
AWWA  
C230



To order: Specify Catalog Number x Length of clamp desired.

Example: FS1-724-12.5 would be a single section clamp for pipe with an O.D. of between 6.84 and 7.24, and the length of the clamp would be 12.5".

- Options Include:
- Buna-N Gasket - add "-N" to catalog number
  - EPDM Gasket - add "-EPDM" to catalog number
  - Conductivity Strips - add "-CS" to catalog number
  - 316 Stainless Steel - add "-Q" to catalog number

Note: Sizes and lengths not listed (including metric) are available upon request. Contact the Ford Meter Box Customer Service Department for information.

Nom. Pipe Size	Pipe O.D. Range	Catalog Number	Length and Approximate Shipping Weight Lbs.							
			6"	7.5"	10"	12.5"	15"	20"	24"	30"
2"	1.96-2.15	FS1-215-Length	4 Lbs.	4 Lbs.	5 Lbs.	5 Lbs.	N/A			
	2.05-2.25	FS1-225-Length	4	4	5	5	N/A	N/A	N/A	N/A
	2.35-2.63	FS1-263-Length	4	4	5	5	N/A			
2-1/4"x2-1/2"	2.70-3.00	FS1-300-Length	4	5	5	8	8	N/A	N/A	N/A
	2.97-3.25	FS1-325-Length								
	3.48-3.70	FS1-370-Length	4	5	5	8	9	N/A	N/A	N/A
3"	3.73-4.00	FS1-400-Length								
	3.96-4.25	FS1-425-Length								
	4.45-4.73	FS1-473-Length	5	5	6	7	9	N/A	N/A	N/A
3"-4"	4.50-4.80	FS1-480-Length								
	4.74-5.14	FS1-514-Length								
	4.95-5.35	FS1-535-Length	5	6	7	8	10	14	18	21
4"	5.22-5.62	FS1-562-Length								
	5.95-6.35	FS1-635-Length								
	6.56-6.96	FS1-696-Length								
6"	6.84-7.24	FS1-724-Length	N/A	7	9	10	14	17	21	27
	7.05-7.45	FS1-745-Length								
	7.45-7.85	FS1-785-Length								
8"	7.95-8.35	FS1-835-Length								
	8.54-8.94	FS1-894-Length	N/A	8	10	11	15	19	24	30
	8.99-9.39	FS1-939-Length								
8"	9.27-9.67	FS1-967-Length								
	9.70-10.10	FS1-1010-Length								
	10.60-11.04	FS1-1104-Length								
10"	11.04-11.44	FS1-1144-Length	N/A	11	14	16	24	28	32	42
	11.34-11.74	FS1-1174-Length								
	11.75-12.15	FS1-1215-Length								
12"	12.00-12.40	FS1-1240-Length								
	12.60-13.02	FS1-1302-Length								
	13.10-13.50	FS1-1350-Length	N/A	13	16	18	27	30	36	48
12"	13.40-13.80	FS1-1380-Length								
	13.70-14.10	FS1-1410-Length								
	14.00-14.40	FS1-1440-Length								
Number of Studs			2	2	3	3-4*	4	6	7	9

\*12.5" long clamps in the 10" and 12" nominal pipe size have 4 studs.

## Tapped Repair Clamps



### Tapping Codes

Size	Code Number	CC (AWWA) Thread		IP Thread			
		Min. Clamp Size		Size	Min. Clamp Size		
		FS1	FS2		FS1	FS2	
3/4"	CC3	2.63	5.24	3/4"	IP3	2.63	5.24
1"	CC4	2.63	5.24	1"	IP4	2.63	5.24
1-1/4"	CC5	3.70	5.24	1-1/4"	IP5	3.70	5.24
1-1/2"	CC6	4.25	5.24	1-1/2"	IP6	3.70	5.24
2"	CC7	4.73	5.57	2"	IP7	4.25	5.57

\* Contact factory for availability

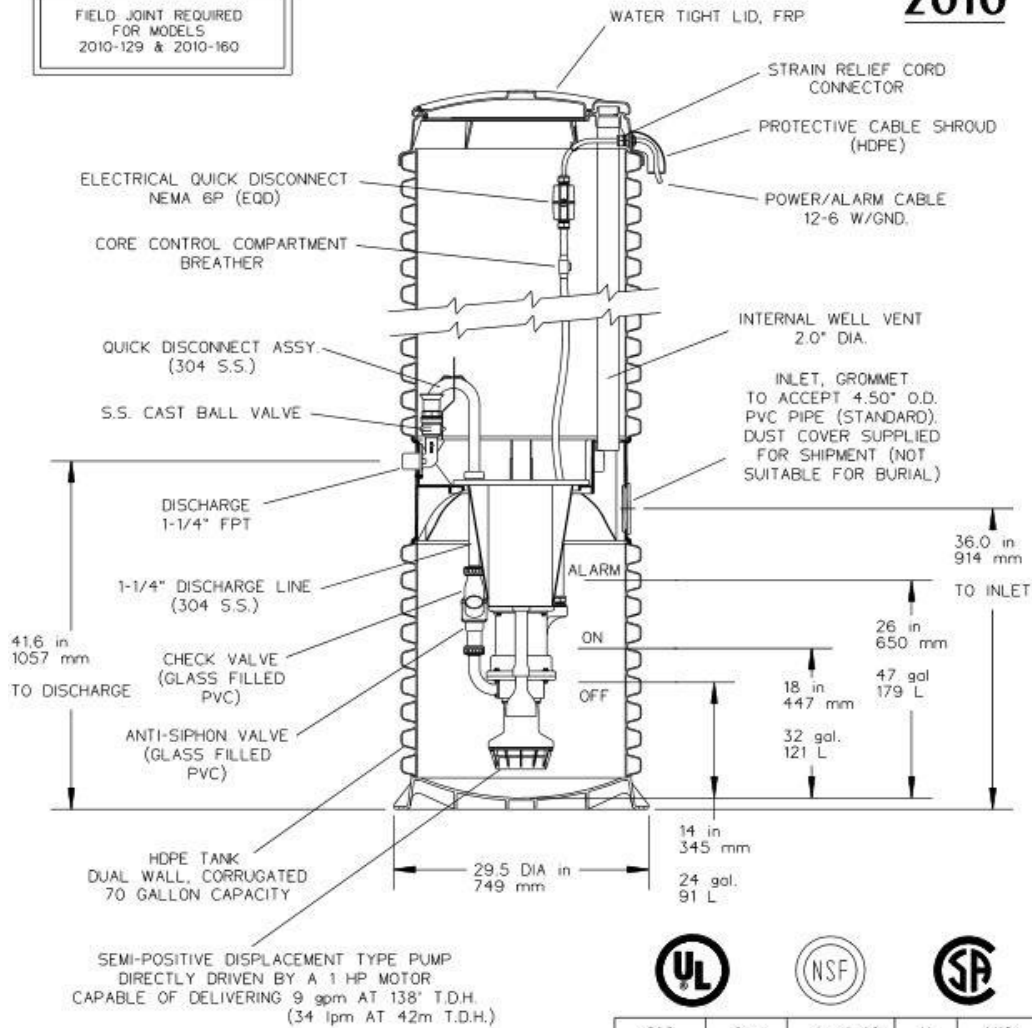
OUTLET TAPS for corporation stops are available on Ford All Stainless Steel Clamps. The minimum clamp size for each tap type and size is listed in the tapping code table above. The tapped outlet is 18-8 Type 304 stainless steel and is "fused" to the clamp band by a fully passivated TIG weld.

- To Order:
1. Select the proper code from table to match desired size and type of thread.
  2. Add code to catalog number of repair clamp.
- Example: The number for an FS1-724-12.5 with a 3/4" CC tap is FS1-724-125-CC3.



**2010**

FIELD JOINT REQUIRED FOR MODELS 2010-129 & 2010-160



SEMI-POSITIVE DISPLACEMENT TYPE PUMP DIRECTLY DRIVEN BY A 1 HP MOTOR CAPABLE OF DELIVERING 9 gpm AT 138' T.D.H. (34 lpm AT 42m T.D.H.)

**BALLAST REQUIREMENTS**

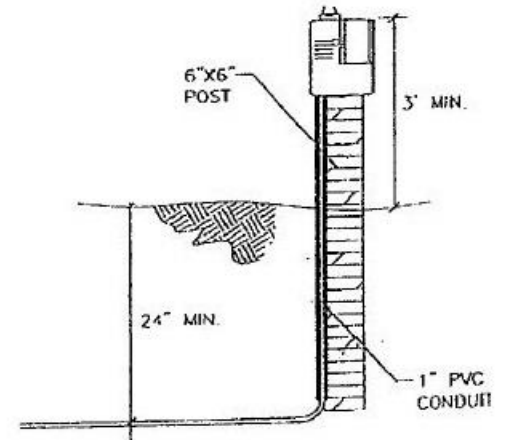
A CONCRETE ANCHOR IS REQUIRED ON ALL OUTDOOR MODEL 2010 STATIONS. SPECIFIC CONCRETE DIMENSIONS ARE REQUIRED TO ACHIEVE NECESSARY BALLAST EFFECT. SEE INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.



SGS	CAH	01/10/02	H	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE
MODEL 2010, DETAIL SHEET				
PA0908P01				

**Control Panel / Alarm Notes**

1. For control panels and alarms to be installed on exterior building walls, mount control panels and alarms in conformance with the NYS Uniform Fire Prevention and Building Code as well as the E/ONE manufacturer's installation instructions.
2. For control panels and alarms to be installed near E/ONE grinder pumps within landscaped areas, mount control panel and alarms on a 6x6 pressure treated post or approved equal with stainless steel screws. Post shall be buried 42" deep (frost depth) and have a minimum of 3 feet above finished grade.
3. Control panel and alarm locations shall be approved by the operator of the Town of Milo and the owner of the building.
4. Control panels and alarms shall be equipped with electrical protection device for low voltage, dry run and high discharge pressure.

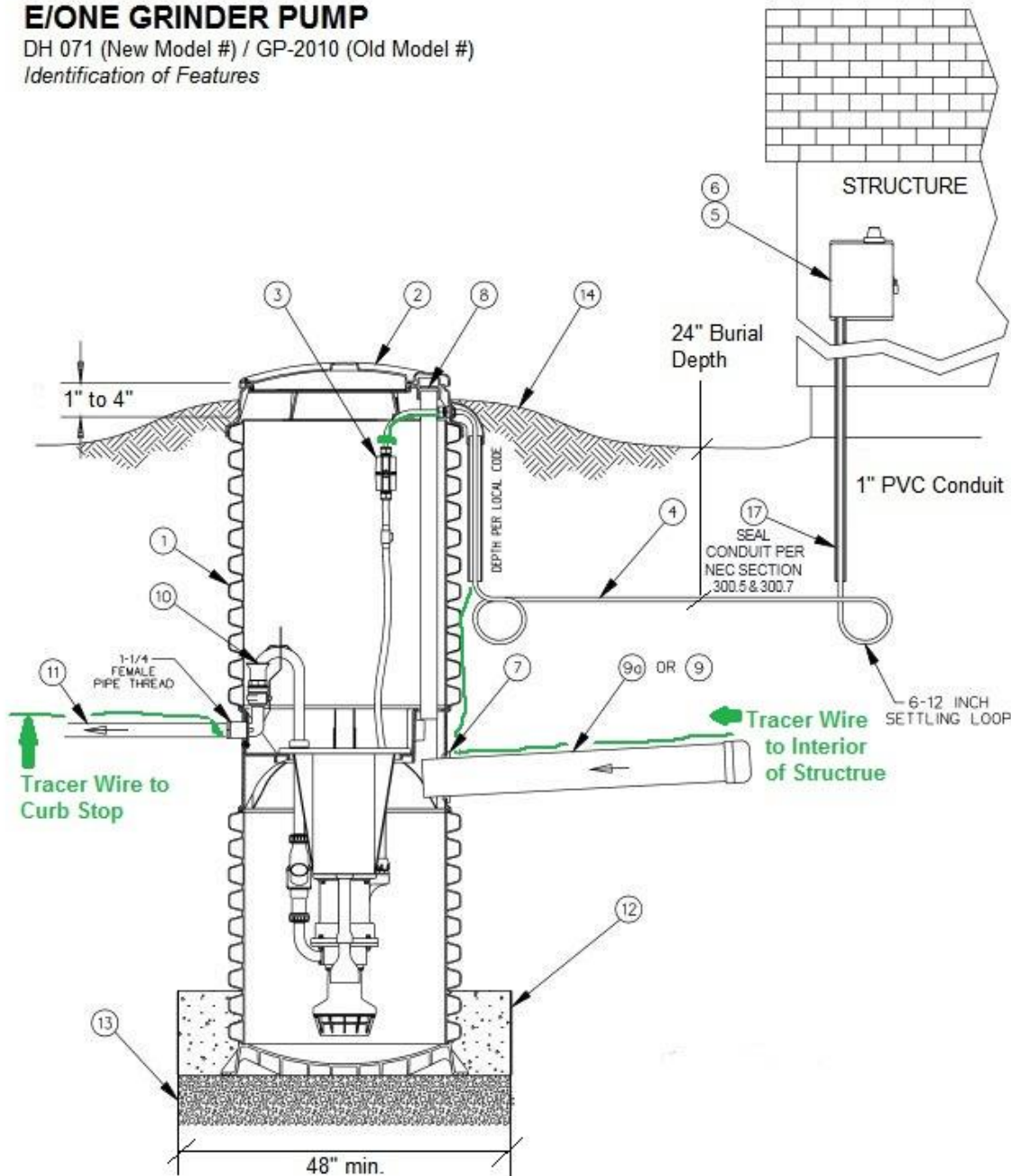


**POST-MOUNTED CONTROL PANEL**

## E/ONE GRINDER PUMP

DH 071 (New Model #) / GP-2010 (Old Model #)

Identification of Features



1. GRINDER PUMP BASIN – High density polyethylene (HDPE).

2. ACCESSWAY COVER – FRP

3. ELECTRICAL QUICK DISCONNECT (EQD) – Cable from pump core terminates here.

4. POWER AND ALARM CABLE – Circuits to be installed in accordance with local codes.

5. ALARM PANEL – NEMA 4X enclosure. Equipped with circuit breakers. Locate according to local codes.

6. ALARM DEVICE – Every installation is to have an alarm device to alert the homeowner of a potential malfunction. Visual devices should be placed in very conspicuous locations.

7. INLET – EPDM grommet (4.5" ID). For 4.5" OD DWV pipe.

8. WET WELL VENT – 2.0" tank vent, supplied by factory in units with accessways.

9. GRAVITY SERVICE LINE – 4" DWV, (4.5" OD). Supplied by others.

9a. STUB-OUT – 4" X 5' Long watertight stub-out, to be installed at time of burial unless the gravity service line is connected during installation. Supplied by others.

10. DISCHARGE VALVE – 1-1/4" Female pipe thread.

11. DISCHARGE LINE – 1-1/4" Nominal pipe size. Supplied by others.

12. CONCRETE ANCHOR – See Ballast Calculations for specific weight for station height. Supplied by others.

13. BEDDING MATERIAL – 6" minimum depth, round aggregate, (gravel). Supplied by others.

14. FINISHED GRADE – Grade line to be 1" to 4" below removable lid and slope away from the station.