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Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.

TECHNICAL DATA

TURBINE SEPTIC TANK EFFLUENT SYSTEMS STEP SYSTEMS Simplex or Duplex

Designed to accommodate simplex or duplex applications in a single polyethylene pump vault

Exceptionally large unobstructed area for float placement reduces risk of hang ups

Inlet is available precut from the factory or blank for field customization

Low-seated filter cartridge provides more vertical room within the vault, allowing for greater versatility when setting floats

- Custom heights available in 51", 60", 66", 72", 78", 84", 90", 96", 108", and 120".
- Pumps available in 11, 19, 27, 35, 55 and 85 GPM models with variable cord lengths, and extended warranties.



Fits in any 18" septic tank opening

Pipe hangers for suspended applications or flat bottom for sitting on tank floor (except 51 inch)

Discharge assembly
All components selected to withstand the septic tank environment

Large selection of effluent turbine pumps

Features

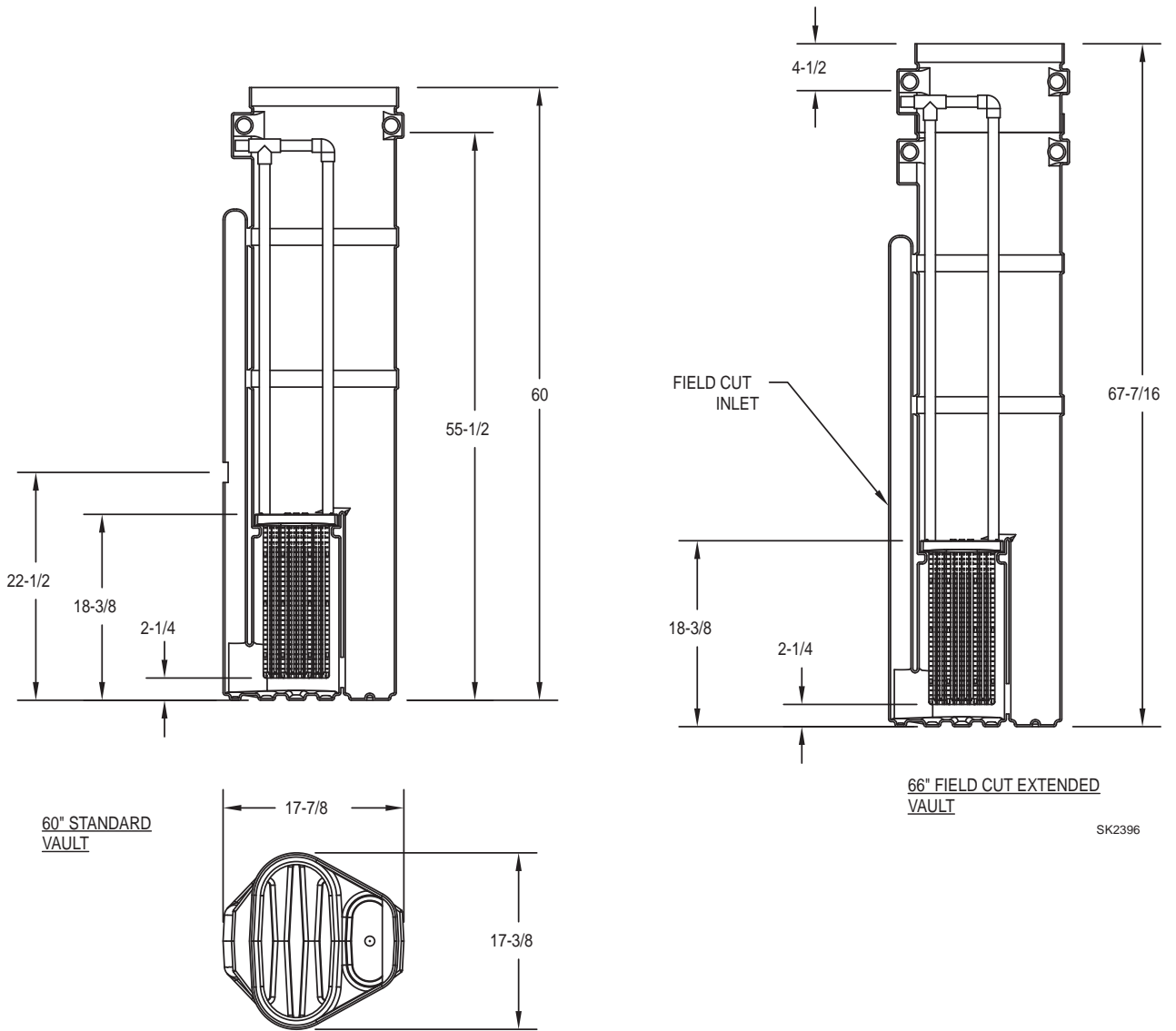
Zoeller Pump Company Turbine STEP (Septic Tank Effluent Pump) System is designed for use in a septic tank as a possible alternative to a separate pump tank. Packages are ideal for use on new construction or repair sites when gravity flow is not an option and higher total dynamic head may be required. The system is also useful in low pressure pipe applications, sand filters, drip systems and other high head applications. Each can be equipped with a control panel for use in either demand dose or timed dose applications.

Over 924 linear feet of 1/16" filtration. Large filter area protects effluent pumps in even the dirtiest septic tank. Deep pleated design is easy to clean.



FILTER CARTRIDGE

Turbine STEP System Specifications



| Materials of Construction | |
|---------------------------|----------------------------|
| Tank | Polyethylene |
| Filter Cartridge | Polypropylene / PVC |
| Float Tree | PVC |
| Hanger Pipe | PVC |
| Drain Valve | Neoprene / Stainless Steel |

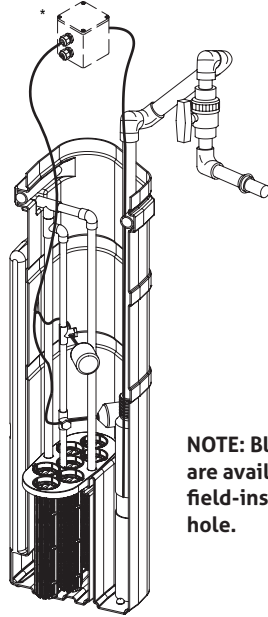
Prepackaged Systems (unassembled)

1/2 HP MODEL WITH FLOAT SWITCH CONTROL

- 5041-0003 1/2 HP (11 GPM) Package
- 5041-0004 1/2 HP HH (11 GPM) Package
- 5041-0005 1/2 HP (19 GPM) Package
- 5041-0006 1/2 HP (27 GPM) Package

System Includes:

- Filter and pump chamber.
- 1/2 HP effluent rated turbine pump.
- 115 V rated system.
- Double piggyback float switch control and float tree.
- 1-1/4" flexible discharge pipe assembly.



NOTE: Blank tanks are available for field-installed inlet hole.

SK2408

Note: All on/off alarm settings must comply with all state and local codes.

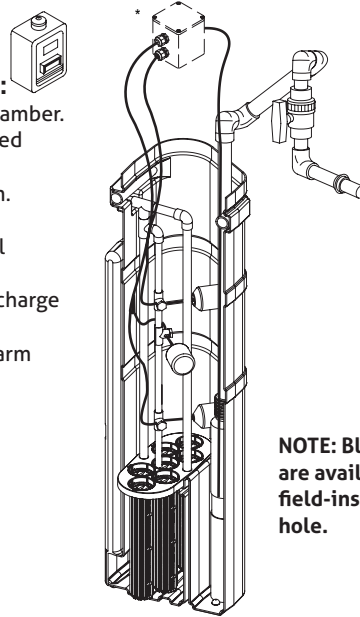
* Order prewired conduit, junction box or check valve separately if required.

1/2 HP MODEL WITH FLOAT SWITCH CONTROL & ALARM

- 5041-0007 1/2 HP (11 GPM) w/ Alarm Package
- 5041-0008 1/2 HP HH (11 GPM) w/ Alarm Package
- 5041-0009 1/2 HP (19 GPM) w/ Alarm Package
- 5041-0010 1/2 HP (27 GPM) w/ Alarm Package

System Includes:

- Filter and pump chamber.
- 1/2 HP effluent rated turbine pump.
- 115 V rated system.
- Double piggyback float switch control and float tree.
- 1-1/4" flexible discharge pipe assembly.
- Indoor/outdoor alarm and float.



NOTE: Blank tanks are available for field-installed inlet hole.

SK2409

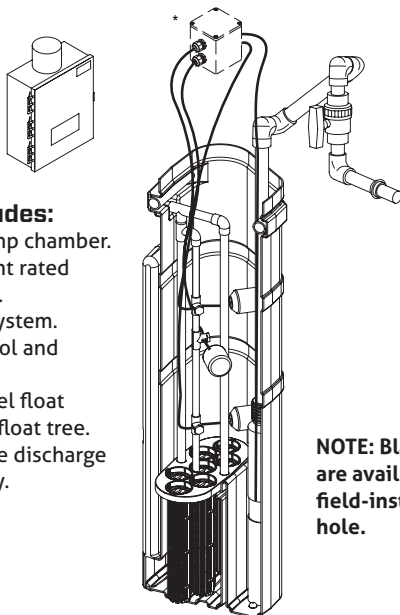
* Order prewired conduit, junction box or check valve separately if required.

1/2 HP MODEL WITH SIMPLEX CONTROL PANEL

- 5041-0011 1/2 HP (11 GPM) w/ Simplex Control Package
- 5041-0012 1/2 HP HH (11 GPM) w/ Simplex Control Package
- 5041-0013 1/2 HP (19 GPM) w/ Simplex Control Package
- 5041-0014 1/2 HP (27 GPM) w/ Simplex Control Package

System Includes:

- Filter and pump chamber.
- 1/2 HP effluent rated turbine pump.
- 115 V rated system.
- Simplex control and alarm panel.
- 3 variable level float switches and float tree.
- 1-1/4" flexible discharge pipe assembly.



NOTE: Blank tanks are available for field-installed inlet hole.

SK2410

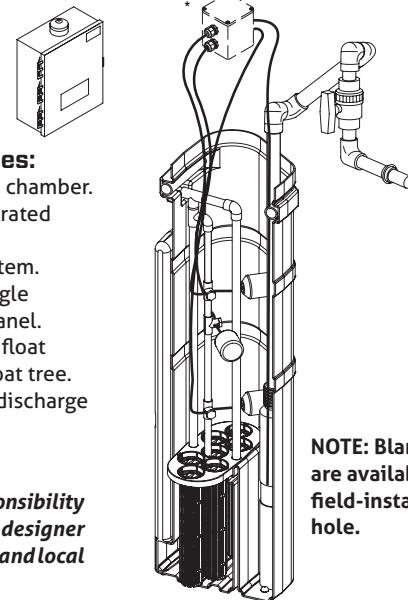
* Order prewired conduit, junction box or check valve separately if required.

1/2 HP MODEL WITH TIMED DOSE PANEL

- 5041-0015 1/2 HP (11 GPM) w/ Timed Dosing Package
- 5041-0016 1/2 HP HH (11 GPM) w/ Timed Dosing Package
- 5041-0017 1/2 HP (19 GPM) w/ Timed Dosing Package
- 5041-0018 1/2 HP (27 GPM) w/ Timed Dosing Package

System Includes:

- Filter and pump chamber.
- 1/2 HP effluent rated turbine pump.
- 115 V rated system.
- Time dosing single pump control panel.
- 3 variable level float switches and float tree.
- 1-1/4" flexible discharge pipe assembly.



NOTE: Blank tanks are available for field-installed inlet hole.

SK2411

Note: It is the responsibility of the installer & designer to assure all state and local codes are met.

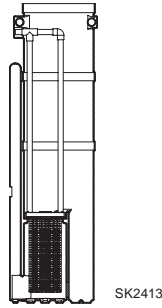
* Order prewired conduit, junction box or check valve separately if required.

Custom Applications

(A) FILTER AND PUMP CHAMBER

Includes filter pack with handle and pump chamber preassembled at factory.

- 5041-0040 48" Field Cut
- 5041-0034 51" Field Cut
- 5041-0001 60" Factory Cut
- 5041-0025 66" Field Cut
- 5041-0026 72" Field Cut
- 5041-0027 78" Field Cut
- 5041-0028 84" Field Cut
- 5041-0029 90" Field Cut
- 5041-0030 96" Field Cut
- 5041-0056 108" Field Cut
- 5041-0049 120" Field Cut



(B) TURBINE EFFLUENT PUMPS

11 GPM Turbine Effluent Pump - 1.25" Discharge

- 5030-0005 .5 HP, 115 V/1Ph, 12 Amp, 5-Stage, 10' cd
- 5030-0006 .5 HP, 230 V/1Ph, 6 Amp, 5-Stage, 10' cd
- 5030-0007 .5 HP, 115 V/1Ph, 12 Amp, 7-Stage, 10' cd
- 5030-0008 .5 HP, 230 V/1Ph, 6 Amp, 7-Stage, 10' cd
- 5030-0009 .75 HP, 230 V/1Ph, 8 Amp, 10-Stage, 10' cd
- 5030-0012 1 HP, 230 V/1Ph, 9.8 Amp, 13-Stage, 10' cd

19 GPM Turbine Effluent Pump - 1.25" Discharge

- 5031-0005 .5 HP, 115 V/1Ph, 12 Amp, 5-Stage, 10' cd
- 5031-0006 .5 HP, 230 V/1Ph, 6 Amp, 5-Stage, 10' cd
- 5031-0007 .75 HP, 230 V/1Ph, 8 Amp, 7-Stage, 10' cd
- 5031-0008 1 HP, 230 V/1Ph, 9.8 Amp, 9-Stage, 10' cd

27 GPM Turbine Effluent Pump - 1.25" Discharge

- 5032-0005 .5 HP, 115 V/1Ph, 12 Amp, 4-Stage, 10' cd
- 5032-0006 .5 HP, 230 V/1Ph, 6 Amp, 4-Stage, 10' cd
- 5032-0007 .75 HP, 230 V/1Ph, 8 Amp, 6-Stage, 10' cd
- 5032-0008 1 HP, 230 V/1Ph, 9.8 Amp, 7-Stage, 10' cd
- 5032-0009 1.5 HP, 230 V/1Ph, 13.1 Amp, 10-Stage, 10' cd

35 GPM Turbine Effluent Pump - 2" Discharge

- 5033-0005 .5 HP, 115 V/1Ph, 12 Amp, 2-Stage, 10' cd
- 5033-0006 .5 HP, 230 V/1Ph, 6 Amp, 2-Stage, 10' cd
- 5033-0007 .75 HP, 230 V/1Ph, 8 Amp, 3-Stage, 10' cd
- 5033-0008 1 HP, 230 V/1Ph, 9.8 Amp, 4-Stage, 10' cd
- 5033-0009 1.5 HP, 230 V/1Ph, 13.1 Amp, 5-Stage, 10' cd

55 GPM Turbine Effluent Pump - 2" Discharge

- 5034-0005 .5 HP, 115 V/1Ph, 12 Amp, 1-Stage, 10' cd
- 5034-0006 .5 HP, 230 V/1Ph, 6 Amp, 1-Stage, 10' cd
- 5034-0007 .75 HP, 230 V/1Ph, 8 Amp, 2-Stage, 10' cd
- 5034-0008 1 HP, 230 V/1Ph, 9.8 Amp, 3-Stage, 10' cd
- 5034-0009 1.5 HP, 230 V/1Ph, 13.1 Amp, 4-Stage, 10' cd
- 5034-0010 2 HP, 230 V/1Ph, 13.2 Amp, 5-Stage, 25' cd
- 5034-0011 3 HP, 230 V/1Ph, 14.5 Amp, 7-Stage, 25' cd

85 GPM Turbine Effluent Pump - 2" Discharge

- 5035-0005 .75 HP, 230 V/1Ph, 8 Amp, 1-Stage, 10' cd
- 5035-0006 1 HP, 230 V/1Ph, 9.8 Amp, 2-Stage, 10' cd
- 5035-0007 1.5 HP, 230 V/1Ph, 13.1 Amp, 3-Stage, 10' cd
- 5035-0008 2 HP, 230 V/1Ph, 13.2 Amp, 4-Stage, 25' cd
- 5035-0009 3 HP, 230 V/1Ph, 14.5 Amp, 6-Stage, 25' cd

Turbine Effluent Pump Extended Warranties

- 021392 .5 - 1.5 HP, 5-Year Extended Warranty
- 021393 2 - 3 HP, 5-Year Extended Warranty



11, 19, 27
GPM Models



35, 55, 85
GPM Models

(C) DISCHARGE ASSEMBLIES & CHECK VALVES

Discharge pipe assembly consists of a male adapter, PVC piping, elbows, PVC pipe, union/ball valve, pipe seal, and stub to extend outside of riser. Preassembled and welded at the factory.

Flexible Discharge Assemblies for Simplex Systems

- 170-0158 1" SCH 40 PVC (185' TDH Max.)
- 170-0172 1" SCH 40 PVC for 96" system (185' TDH Max.)
- 170-0082 1-1/4" SCH 40 PVC (185' TDH Max.)
- 170-0174 1-1/4" SCH 40 PVC for 96" system (185' TDH Max.)
- 170-0148 1-1/4" SCH 40 PVC (185' TDH Max.)
- 170-0159 2" SCH 40 PVC (130' TDH Max.)
- 170-0161 2" SCH 40 PVC for 96" system (130' TDH Max.)
- 170-0178 2" SCH 40 PVC for 120" system (130' TDH Max.)

Rigid Discharge Assemblies for Simplex Systems

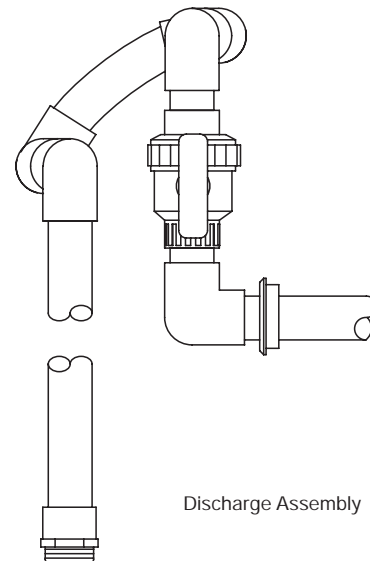
- 170-0181 1" SCH 40 PVC
- 170-0182 1-1/4" SCH 40 PVC
- 170-0184 1-1/4" SCH 40 PVC for 96" system
- 170-0186 1-1/4" SCH 40 PVC for 120" system
- 170-0183 2" SCH 40 PVC
- 170-0190 2" SCH 40 PVC for 84" system
- 170-0185 2" SCH 40 PVC for 96" system
- 170-0187 2" SCH 40 PVC for 120" system
- 170-0177 2" SCH 40 PVC 3' cold weather extension kit

Rigid Discharge Assemblies for Duplex Systems

- 170-0197 1-1/4" SCH 40 PVC, dual discharge
- 170-0195 2" SCH 40 PVC, dual discharge
- 170-0206 2" SCH 40 PVC, 3' cold weather extension kit, dual discharge

Check Valves

- 30-0187 1-1/4" brass threaded check valve
- 30-0189 2" brass threaded check valve



Discharge Assembly

NOTE: Turbine effluent pumps are available with 25', 50', and 100' cord lengths.

SK2049

Custom Applications, continued

(D) CONTROL/ALARM

Double Piggyback Variable Level Pump Control Switches

- 10-1966 115 V, 13 Amps (7" max. pumping range)
- 10-1967 230 V, 13 Amps (7" max. pumping range)

High Water Alarm Assembly

- 10-4012 Indoor Alarm assembly
- 91104-0001 Outdoor Alarm assembly, NEMA 3R with 15' mechanical switch

Demand Dose Control Panels

Simplex panel with pull out disconnect, motor contactor, and high water alarm circuit.

- 10-1355 Simplex panel, NEMA 4X, 115/230 V, 1 phase, 0-20 Amps, 3 mechanical float switches
- 10-0093 Duplex panel, NEMA 4X, 115/230 V, 1 phase, 0-20 Amps, 3 mechanical float switches

Timed Dose Control Panels (includes float switches)

Timed dose panel for single pump control with alarm circuit, elapsed time meter, event counter, circuit breaker, motor contactor, and float switches (see FM1559).

- 10-1021 Simplex panel, NEMA 4X, 115 V, 0-20 Amps, 1 phase, 2 float switches
- 10-0684 Simplex panel, NEMA 4X, 115 V, 0-20 Amps, 1 phase, 3 float switches
- 10-0697 Simplex panel, NEMA 4X, 230 V, 0-20 Amps, 1 phase, 3 float switches
- 10-1430 Duplex panel, NEMA 4X, 115/230 V, 0-20 Amps, 1 phase, 3 float switches

Note: All variable level float switches in this section are mechanically activated and do not contain mercury.

(E) PREWIRED CONDUIT/JUNCTION BOX

Prewired conduit is designed to make the electrical wiring easier. Assemblies come with the correct numbers of wires of the correct gauge for the application. Junction box is included.

For Simplex Demand or Timed Dose Control Panels (up to 3 floats) - 1/2" Conduit

- 5100-0001 25' long w/ J-Box (4 cord seals, 1 plug) wt. 10 lbs.
- 5100-0002 35' long w/ J-Box (4 cord seals, 1 plug) wt. 14 lbs.
- 5100-0003 50' long w/ J-Box (4 cord seals, 1 plug) wt. 18 lbs.
- 5100-0004 75' long w/ J-Box (4 cord seals, 1 plug) wt. 26 lbs.
- 5100-0005 100' long w/ J-Box (4 cord seals, 1 plug) wt. 33 lbs.

For Duplex Demand or Timed Dose Control Panels (up to 3 floats) - 3/4" Conduit

- 5100-0026 25' long w/ J-Box (5 cord seals, 1 plug) wt. 10 lbs.
- 5100-0027 35' long w/ J-Box (5 cord seals, 1 plug) wt. 14 lbs.
- 5100-0028 50' long w/ J-Box (5 cord seals, 1 plug) wt. 18 lbs.
- 5100-0029 75' long w/ J-Box (5 cord seals, 1 plug) wt. 26 lbs.
- 5100-0030 100' long w/ J-Box (5 cord seals, 1 plug) wt. 33 lbs.

NEMA 4X Junction Boxes

Select Junction Box based on number of cords present in riser.

- 10-1399 4"L x 4"W x 4"H, 4 round cord seals, 1-1/2" hub (assembled), wt. 1.0 lb.
- 10-0777 4"L x 4"W x 2"H, 4 round cord seals, 3/4" hub (assembled), wt. 1.0 lb.
- 10-0778 4"L x 4"W x 2"H, 5 round cord seals, 3/4" hub (assembled), wt. 1.0 lb.



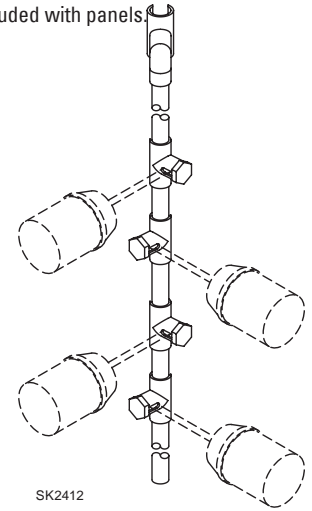
(F) FLOAT TREE

Float trees are selected based on the number of float switches in each assembly.

- 10-1672 2 - Hanger Float Tree (for use with 2-float applications)
- 10-1673 3 - Hanger Float Tree (for use with 3-float applications)
- 10-1674 4 - Hanger Float Tree (for use with 4-float applications)
- 10-1726 5 - Hanger Float Tree (for use with 5-float applications)

Adders are available for 72", 84", 96", 108", and 120" float tree lengths.

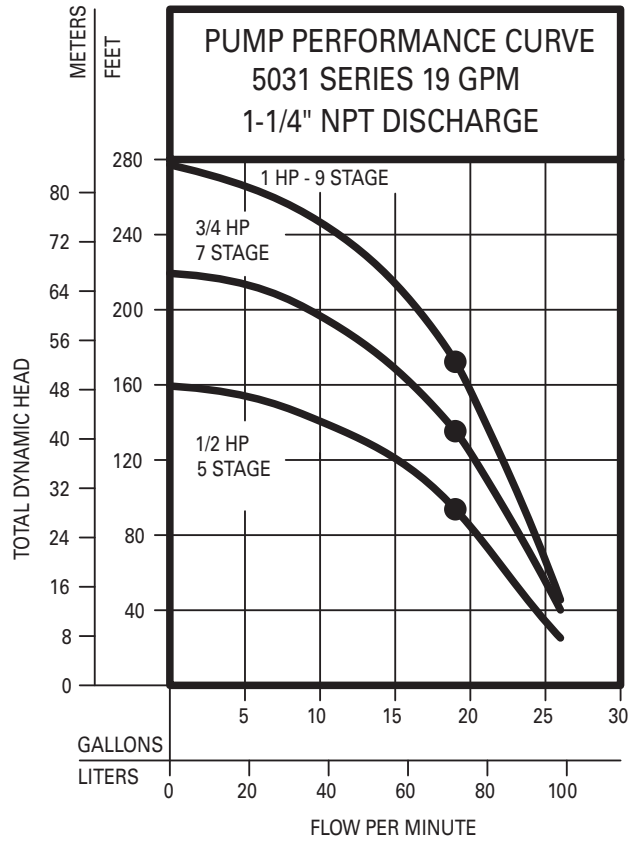
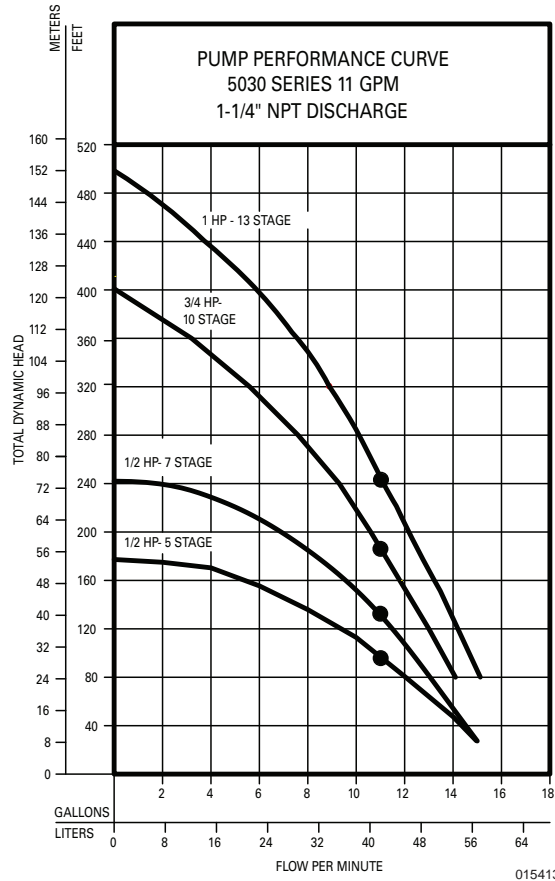
Floats ordered separately, also may be included with panels.



Zoeller Pump Company Turbine STEP System has 6 basic components:

- (A) Filter and pump chamber _____
- (B) Pump _____
- (C) Discharge Assembly _____
- (D) Control/Alarm System _____
- (E) Prewired Conduit/Junction Box _____
- (F) Float Tree _____

Turbine STEP System Performance



Turbine STEP System Performance, continued

