ZOELLER® PUMP COMPANY

MAIL TO: P.O. BOX 16347 • Louisville, KY 40256-0347
SHIP TO: 3649 Cane Run Road • Louisville, KY 40211-1961
Tel: (502) 778-2731 • 1 (800) 928-PUMP

SECTION: 5.10.310
FM0615
0124
Supersedes
0321

Visit our website:
zoellerpumps.com

SPECIFICATIONS

SEWAGE/SUMP DUPLEX SYSTEM

ZOELLER COMPANY SUBMERSIBLE SEWAGE OR DEWATERING PUMPS

SINGLE SEAL	264	266	267	270	282	284	292	293	294	295	404	405
DOUBLE SEAL				4270	--	4284	4292	--	4294	4295	4404	4405

CAST IRON SERIES DUPLEX SYSTEM

Furnish two Zoeller nonautomatic submersible pumps, Model _____ Single Seal or Model _____ Double Seal, with an _____ Electrical or _____ Mechanical Alternating System. Pumps shall have a capacity of _____ GPM against a Total Dynamic Head of _____ feet. Motor specification: _____ voltage, _____ cycle, _____ phase, _____ HP. Discharge to be _____ 2" or _____ 3" NPT or _____ 4" flange (404/4404, 405/4405 only). Cord length to be _____feet. Pump shall be mounted on rail system with NPT _____ or flange _____ discharge. Pumps will pass ____ 2" Solids (264, 266, 267, 270/4270, 282, 284/4284, 292/4292, 293, 294/4294), or ____ 3" Solids (404/4404, 405/4405). Pumps shall be _____ UL listed,_____ CSA approved, _____ SSPMA certified, _____ State of Wisc. approved, _____ other (Specify _____ _____).

SINGLE PHASE SYSTEM
GENERAL

Pump motor shall be hermetically sealed, submersible type, operating in a high quality dielectric oil for cooling the windings and for lubrication of the motor bearings and ceramic-carbon shaft seal. Single phase motor shall have internal automatically resetting, thermal overload protection. Construction shall be of cast iron with 100% baked-on powder coated epoxy finish for corrosion resistance and longer casting durability. All fasteners and external metal parts shall be of stainless steel. Impeller shall be of vortex non-clog design. (Addition noted below.)

Check Applicable Series:

_____ 264 (.4 HP) model pump shall have a permanent split capacitor motor with capacitor attached to the motor. Cast iron switch case, pump housing, motor housing with plastic impeller and base.

_____ 266 (1/2 HP) model pump shall have split phase motor with current sensing, starting relay enclosed in switch housing cast iron switch case, motor housing and pump housing with plastic impeller and base.

_____ 267 (1/2 HP) model pump shall have split phase motor with current sensing, starting relay enclosed in switch housing.

_____ 270 (1 HP) model pump shall have a permanent split capacitor motor with capacitor in the switch housing attached to the pump. The impeller shall be cast bronze. Motor housing shall be cast iron. Discharge shall be a 2" female NPT hub.

_____ 4270 (1 HP) model pump with double carbon/ceramic shaft seals shall have a permanent split capacitor motor with capacitor in the switch housing attached to the pump. The impeller shall be cast bronze. Motor housing shall be cast iron. Discharge shall be a 2" female NPT hub. The lower seal cavity shall be oil-filled.

_____ 284 (1 HP) cast iron series pump shall have a permanent split capacitor motor with run capacitor and magnetic contactor enclosed in a switch housing attached to the pump. Impeller and motor housing shall be cast iron. The motor housing shall be finned for extra cooling capability.

_____ 4284 (1 HP) cast iron series pump with double carbon/ceramic shaft seals shall have a permanent split capacitor motor with run capacitor and magnetic contactor enclosed in a switch housing attached to the pump. Impeller and motor housing shall be cast iron. The motor housing shall be finned for extra cooling capability. The lower seal cavity shall be oil-filled.

_____ 292 (1/2 HP)_____293 (1 HP) _____294 (1-1/2 HP) _____295 (2 HP) cast iron series pump shall have a permanent split capacitor motor with capacitor and magnetic contactor enclosed in a switch housing attached to the pump. The impeller shall be cast iron. Motor housing shall be cast iron and finned for extra cooling capability.

_____ 4292 (1/2 HP)_____4294 (1-1/2 HP) _____4295 (2 HP) cast

iron series pump with double carbon/ceramic shaft seals shall have a permanent split capacitor motor with capacitor and magnetic contactor enclosed in a switch housing attached to the pump. The impeller shall be cast iron. Motor housing shall be cast iron and finned for extra cooling capability. The lower seal cavity shall be oil-filled.

_____ 404 (2 HP) _____ 405 (3 HP) cast iron series pump shall have a permanent split capacitor motor with capacitor enclosed in a switch housing attached to the pump. Impeller and motor housing shall be cast iron. The motor housing shall be finned for extra cooling capability.

_____ 4404 (2 HP) _____ 4405 (3 HP) cast iron series pump with double carbon/ceramic shaft seals shall have a permanent split capacitor motor with capacitor enclosed in a switch housing attached to the pump. The impeller and motor housing shall be cast iron. The motor housing shall be finned for extra cooling capability. The lower seal cavity shall be oil-filled.

THREE PHASE PUMPS

Pump motor shall be hermetically sealed, submersible type, operating in a high quality dielectric oil for cooling the windings and for lubrication of the motor bearings and carbon/ceramic shaft seal. Pump motor shall have external magnetic contactor and overload protection. All fasteners and external metal parts shall be of stainless steel. Impeller shall be of vortex non-clog design.

_____ 266 (1/2 HP) _____267 (1/2 HP) Series shall have a 4-pole squirrel cage induction motor.

_____ 282 (1/2 HP) _____284 (1 HP) Series shall have a 4-pole squirrel cage induction motor. The motor housing shall be finned for extra cooling capability.

_____ 4284 (1 HP) cast iron series pump with double carbon/ceramic shaft seals shall have a 4-pole squirrel cage induction motor. Impeller and motor housing shall be cast iron. The motor housing shall be finned for extra cooling capability. The lower seal cavity shall be oil-filled.

_____ 292 (1/2 HP) _____293 (1 HP) _____294 (1-1/2 HP) _____295 (2 HP) Series shall have a 2-pole squirrel cage induction motor. Impeller and pump housing shall be cast iron. The motor housing shall be finned for extra cooling capability.

_____ 4292 (1/2 HP) _____4294 (1-1/2 HP) _____4295 (2 HP) cast iron series pump with double carbon/ceramic shaft seals shall have 2-pole squirrel cage induction motor. The impeller shall be cast iron. Motor housing shall be cast iron and finned for extra cooling capability. The lower seal cavity shall be oil-filled.

_____ 404 (2 HP) _____ 405 (3 HP) series shall have a 4-pole squirrel cage induction motor. Impeller and motor housing shall be cast iron. The motor housing shall be finned for extra cooling capability.

_____ 4404 (2 HP) _____ 4405 (3 HP) cast iron series pump with double carbon/ceramic shaft seals shall have 4-pole squirrel cage induction motor. Impeller and motor housing shall be cast iron. The motor housing shall be finned for extra cooling capability. The lower seal cavity shall be oil-filled.

ALTERNATING SYSTEM
ELECTRICAL ALTERNATING SYSTEM

Alternator - Single Phase

A Zoeller _____ Electrical Alternator Panel with three Variable Level Float controls shall be furnished. Panel shall be _____ UL Listed or _____ CSA approved and shall include an alternating circuit, separate contact relays, run lights, circuit breakers and H-O-A switches for each pump. Also included shall be a numbered terminal strip and a high-water alarm and light. Overload protection shall be furnished in the pump motor. Panel shall have NEMA _____ rating. Electrical components sized for a Zoeller model _____, _____volt, _____cycle, _____phase, _____ HP pump.

Alternator - Three Phase

A Zoeller _____ Electrical Alternator Panel with three Variable Level Float controls shall be furnished. Panel shall be _____ UL Listed or _____ CSA approved and shall include an alternating circuit, separate magnetic starter with overload protection, run lights, circuit breakers, and H-O-A switches for each pump. The control panel shall include a transformer to reduce control voltage to 115 volts. Also included shall be a numbered terminal strip and a high water alarm and light. Panel shall have a NEMA-4X rating. Electrical components shall be sized for a Zoeller model_____, _____volt, _____cycle, _____phase, _____ HP pump.

Variable Level Float Controls -

Single Phase or Three Phase

Variable Level Float Controls shall provide automatic operation of pumps and alarm. Two controls shall close circuit for on/off operation at selected levels as required to rotate operation of pumps. The third variable level float switch shall close an override circuit to operate both pumps and to activate the alarm. The variable level float control switch shall be omnidirectional, normally open, and shall include a 20' SJOWA neoprene cord. All controls shall be fastened to a float switch mounting pipe with plastic tie mounting straps. The pipe, attached to the underside of the removable inspection plate on the basin cover, shall be furnished and installed by the contractor.

ACCESSORIES/MISCELLANEOUS

UNICHECK

_____ 30-0021, (Clamp Union Valve) (2 inch) full flow check valve, rated at 4.3 psi pressure (10 feet TDH) at 130 °F shall be furnished to fit 2 inch ABS, PVC, CPVC, steel or copper piping. Unicheck shall have valve body and seat of PVC plastic and shall be assembled with thru bolts. Gasket and flapper shall be neoprene with brass or stainless steel backing plates and stainless steel rivet. Unicheck shall include two (2) neoprene unions and four (4) stainless steel clamps and fasteners.

_____ 30-0151 (Clamp Union Valve) 2 inch full flow check valve, shall be cast iron, shall be furnished to fit 2 inch ABS, PVC, CPVC, steel, or copper piping. Unicheck valve body, gasket and flapper shall be neoprene with brass backing plates and stainless steel rivet. Unicheck shall include two (2) neoprene unions and four (4) stainless steel clamps and fasteners.

_____ 30-0020 (2 inch) or _____ 30-0030 (3 inch) IPS full flow compression union check valve shall be furnished. Unicheck body and compression end fittings shall be constructed of PVC. Flapper and end seals be Buna-N. Valve shall include no metallic parts. Pressure rated at 25 PSI (57 feet TDH) at 130 °F.

_____ 30-0152 (2 inch) or _____30-0160 (3 inch) cast iron full flow check valve with female NPT Rated 50 PSI (115 feet TDH) at 130 °F. Neoprene polyester reinforced flapper with cast iron and brass backing plates and stainless steel fastener.

_____ 30-0170 (4 inch) Flanged cast iron check valve. Rated at 125 PSI steam pressure. Cast iron body, cover and case, bronze disc, stainless steel fitted, shall be installed in horizontal position.

_____ Tri-Check/Combo, 30-0101 or 30-0103.

SUMP BASIN

A Zoeller IAPMO approved _____ polyethylene basin, .230 inch thick, or Zoeller _____ fiberglass basin, 3/16 inch minimum thick, _____ inches inside diameter by _____ inches deep shall be furnished. The basin shall include _____ four (4) inch cast iron caulk hub inlets with anticorrosion coating. The center line of the hub(s) shall be located nine (9) inches from the top of the basin. The basin shall also include a .125 inch thick steel sump cover. Cover shall have two (2) pump installation plates and an inspection plate. Optional anti-flotation ring can also be provided. Also included shall be two (2) neoprene seals for pump cords, neoprene seal for vent and discharge flanges, foam cover seal and plated steel fasteners. Cover shall include a _____ inch vent and two (2) _____ inch discharge flanges with mounting hardware.

PIPING & POWER WIRING

All piping shall be rigid and permanent in nature and shall be furnished and installed by the contractor. A unicheck shall be installed in the discharge pipe. A

3/16" vent hole shall be drilled in the discharge pipe below the check valve and pit cover to purge the system of trapped air. Power wiring shall be supplied by the electrical contractor. Power wiring for pumping system and alarm system shall be connected to separate circuits.

HI TEMPERATURE PUMPS

For applications up to 200 °F continuous operation, specify High Temperature Zoeller Co. models. See literature on High Temperature pumps, FM2811, FM1923, and FM0807, for additional information.

PUMP DISCONNECTS AND RAIL SYSTEMS

Where conditions, due to safety, health and the economy of maintenance require pump disconnects or rail systems specify:

_____39-0002, 2" NPT Disconnect (Non-pump Supporting)

_____39-0004, 2" NPT Rail System (Non-pump Supporting)

_____39-0128, 2" x 2" Z-Rail Disconnect System, all Ductile Iron Construction

_____39-0129, 2" x 2" Z-Rail Disconnect System, Ductile Iron Construction w/ SS Upper Rail Bracket

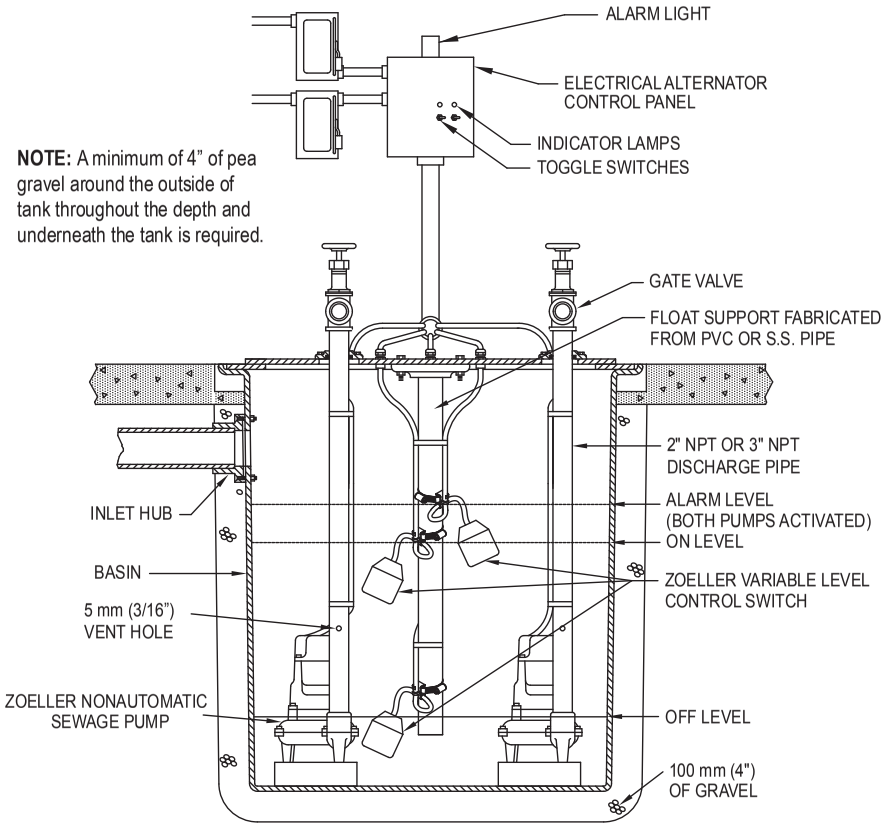
_____39-0122, 3" x 3" Z-Rail Disconnect System, all Ductile Iron Construction

_____39-0123, 3" x 3" Z-Rail Disconnect System, Ductile Iron Construction w/ SS Upper Rail Bracket

The Z-Rail® Disconnect System is a pump support assembly consisting of a disconnect fitting, rail plate & guide and utilizes two 3/4" rail pipes that guide the pump into and out of the basin. The assembly components are made of ductile iron with an optional 304 SS upper rail support bracket.Used in concrete, steel or fiberglass basins, it allows for the installation or removal of the pump from the basin at ground level without entering the basin. The disconnect fitting has a machined fit with an O-ring seal that holds up to 160 psi, being able to support pumps weighing up to 300 lbs. The 3/4" rail pipes are provided by the installer, being either galvanized steel or SS pipe.

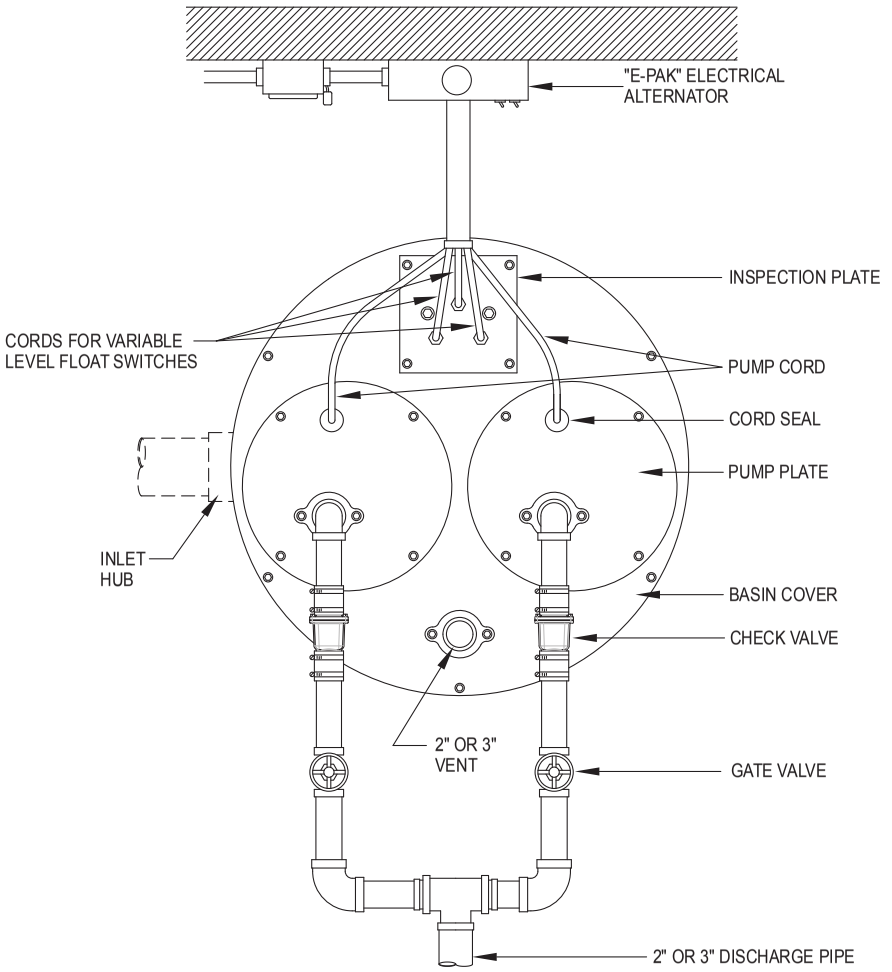
_____39-0016, 4" x 4" Flanged Rail System, connected horizontally, powder coated cast iron and fitted with SS rail brackets. 2" schedule 40 rail pipes are provided by others.

SEWAGE DUPLEX SYSTEM WITH ELECTRICAL ALTERNATOR (SINGLE OR THREE PHASE)



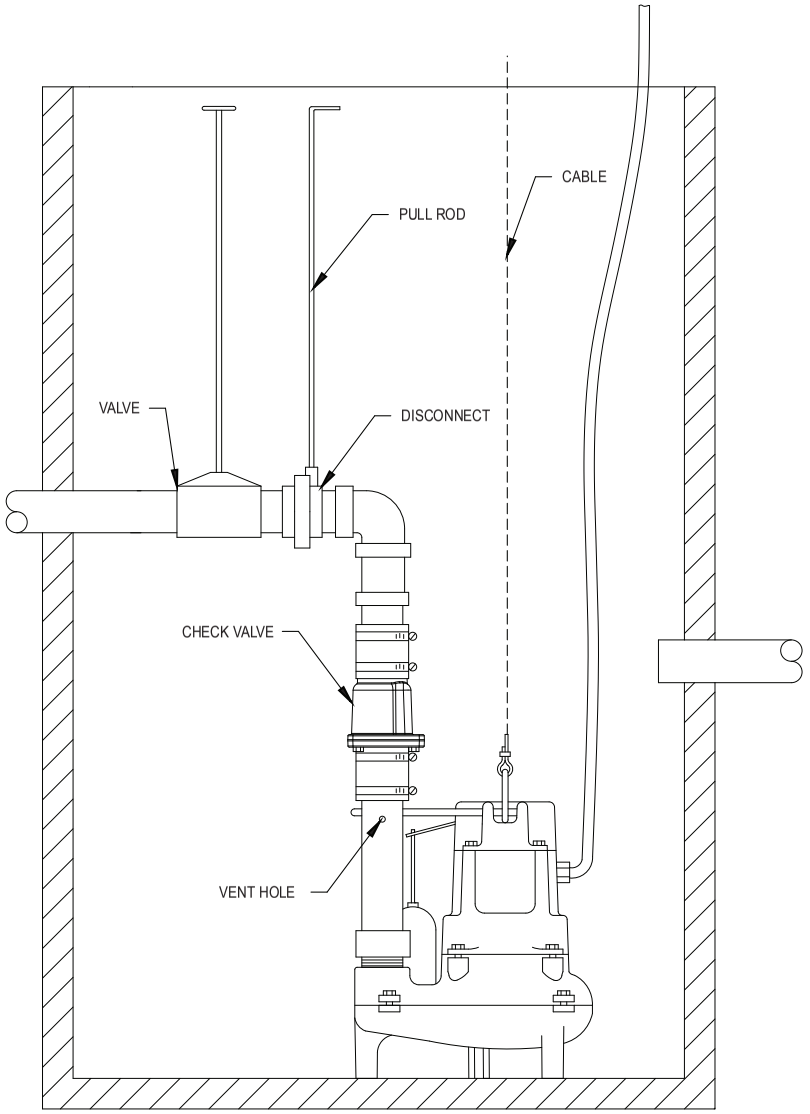
SK484

SEWAGE DUPLEX SYSTEM WITH ELECTRICAL ALTERNATOR (SINGLE OR THREE PHASE) TOP VIEW



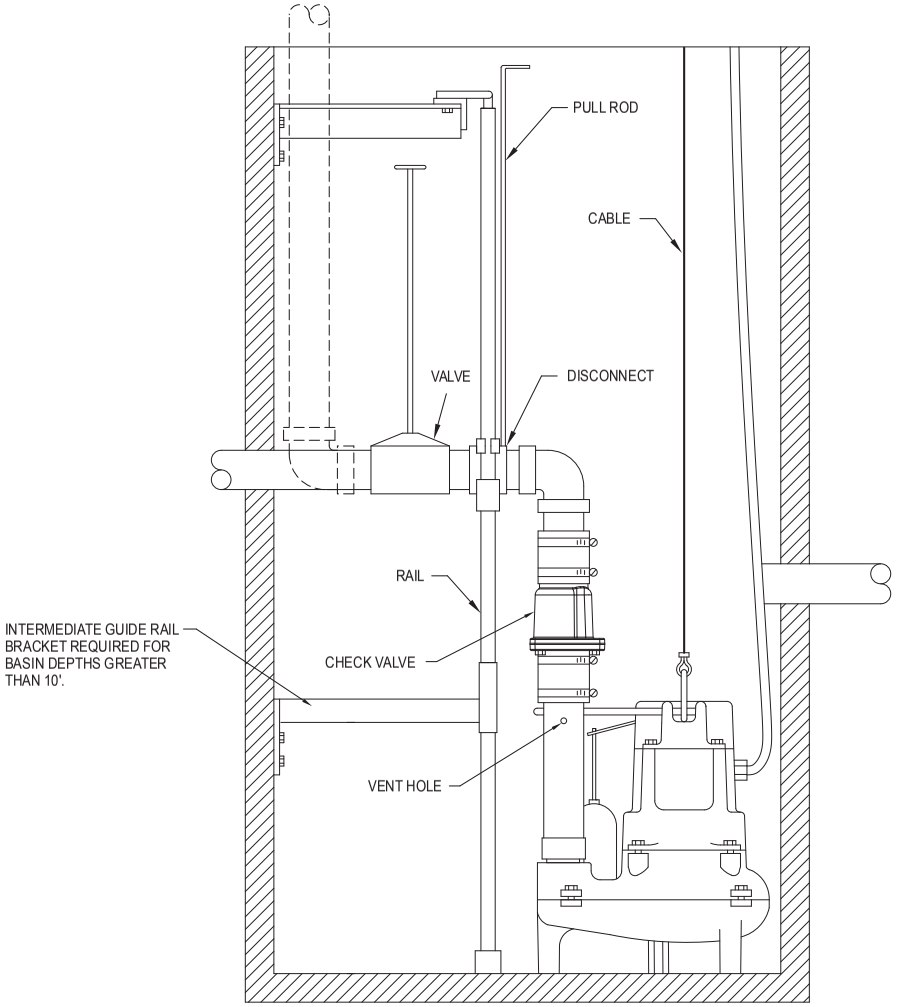
SK485

PUMP DISCONNECT SYSTEM

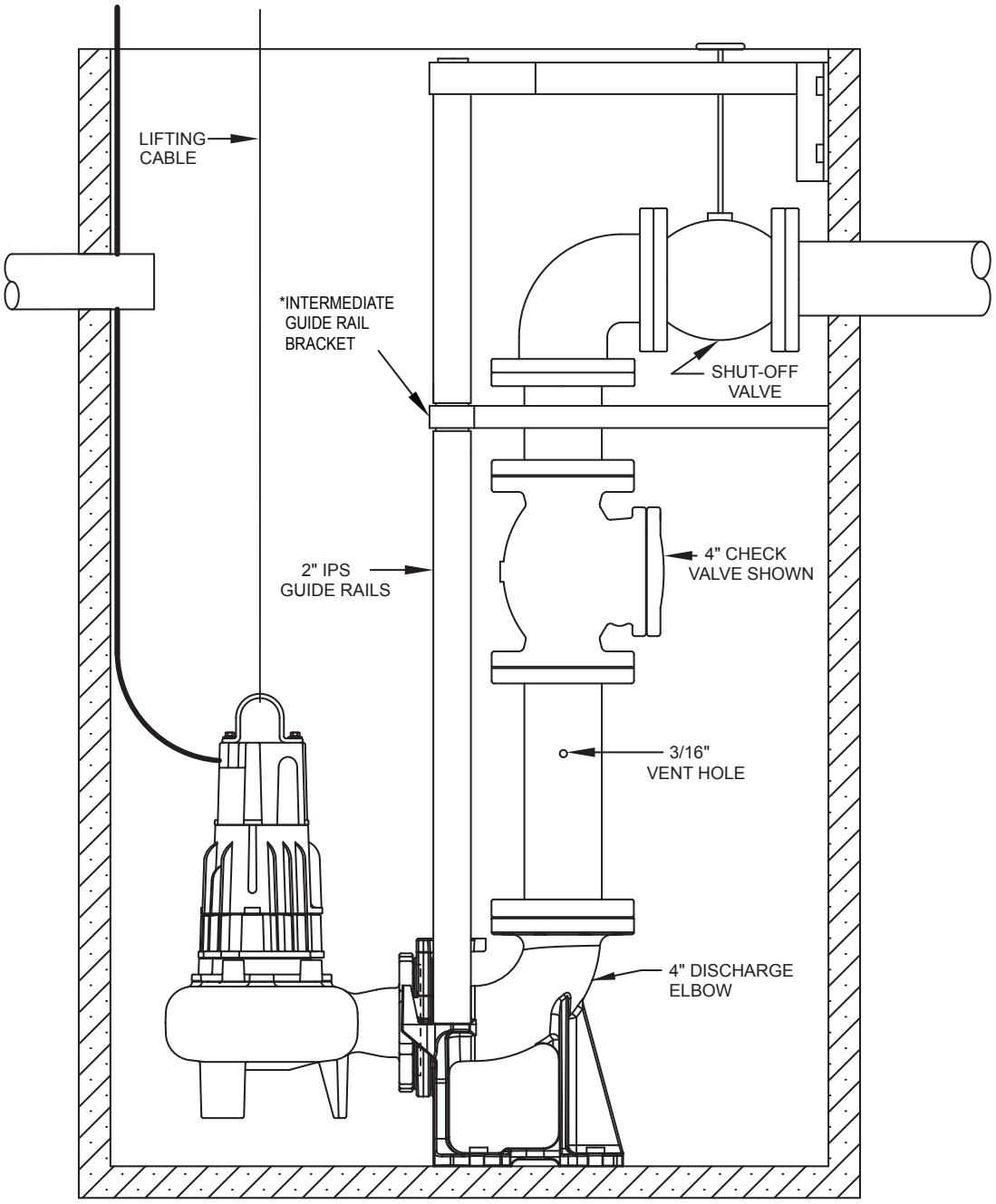


SK1531

PUMP DISCONNECT WITH RAIL SYSTEM

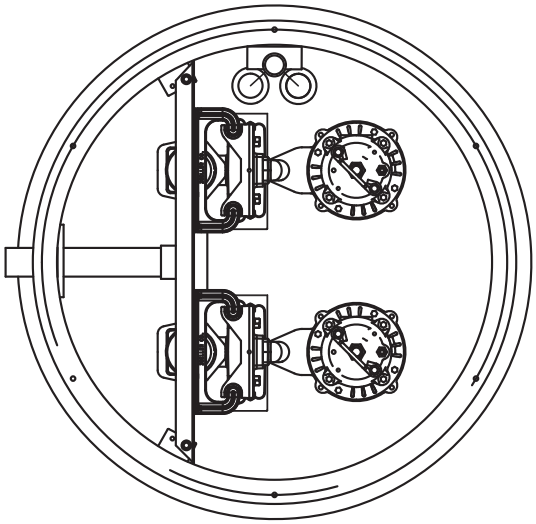


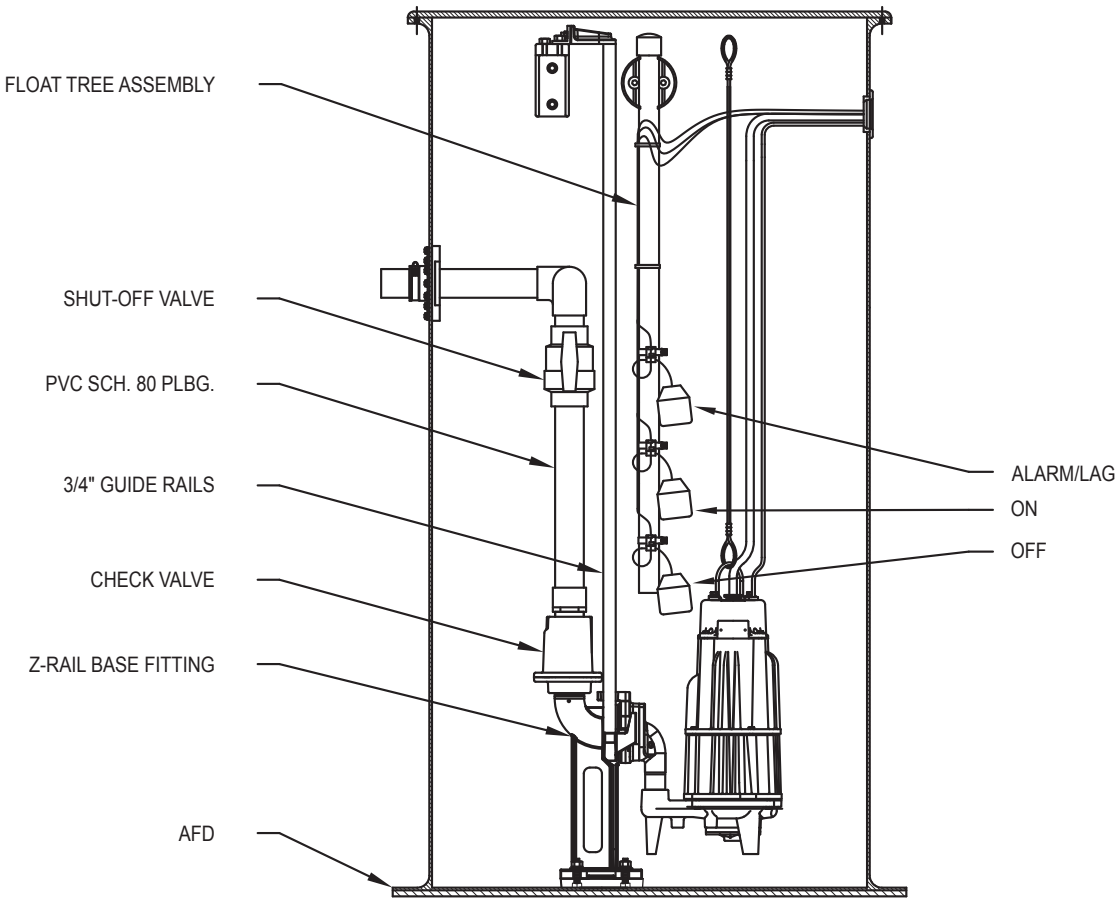
SK1735



SK1100

Z-RAIL® DISCONNECT SYSTEM





ZOELLER® PUMP COMPANY

MAIL TO: P.O. BOX 16347 • Louisville, KY 40256-0347
SHIP TO: 3649 Cane Run Road • Louisville, KY 40211-1961
Tel: (502) 778-2731 • 1 (800) 928-PUMP
Trusted. Tested. Tough.®

Visit our website:
zoellerpumps.com