

ATTACHMENT "A"

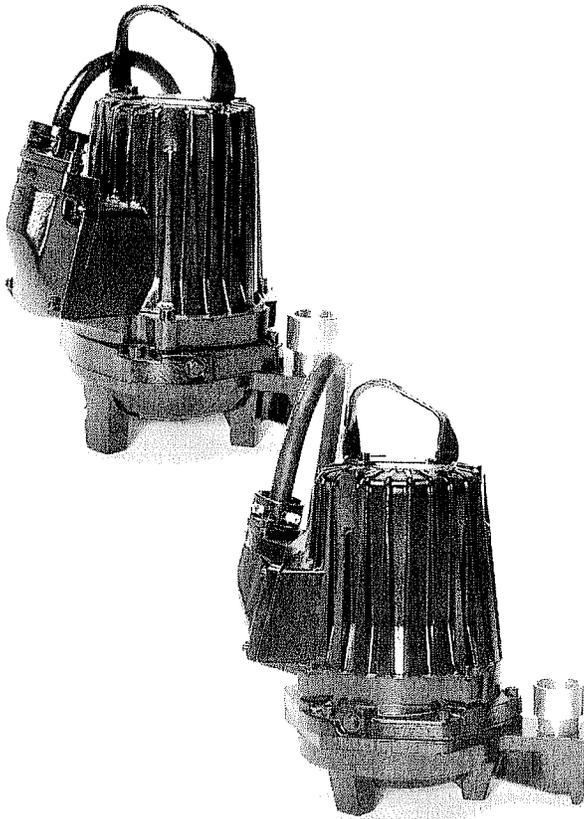
B1GA2GA

# ITT

Wastewater

## Goulds Pumps 1GA(X) & 2GA(X)

1½" and 2" Discharge  
Submersible Grinder Pumps



 **GOULDS PUMPS**

Goulds Pumps is a brand of ITT Corporation.

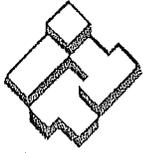
[www.goulds.com](http://www.goulds.com)

*Engineered for life*

### FEATURES

- **Design:** Capable of grinding municipal, commercial and industrial sewage.
- **Cutter System:** Designed to reduce sewage to a fine slurry.
- **Impeller:** Cast iron, semi-open, non-overloading multi-vane design with pump-out vanes for mechanical seal protection.
- **Casing:** Cast iron, volute type for high efficiency. Adaptable for slide rail system.
- **Paint:** Two coat paint system for superior surface protection.
- **Float Leakage Sensor (FLS):** a small internal float switch is used to detect the presence of water in the stator chamber. Standard on all models.
- **Leakage Sensor Detector Circuit:** The FLS, when activated, will cause the patented 24 volt MiniCAS monitoring relay to signal an alarm and, if desired, stop the pump. The MiniCAS 24 volt relay can be ordered separately for installation in a control panel by a UL or CSA certified panel shop or as a built-in option in our control panel.

ATTACHMENT "B" (1-3)



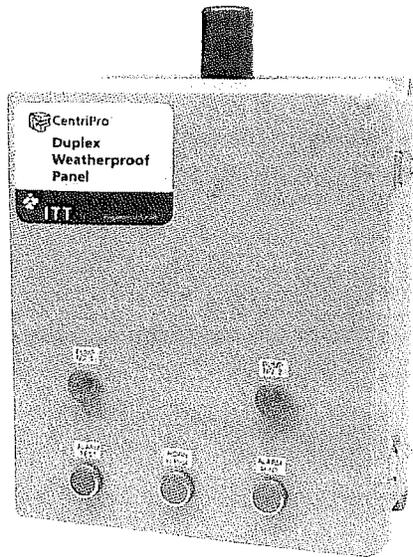
ITT

Wastewater

# CentriPro

## DUPLEX NEMA 4X WEATHERPROOF PANELS

Single and Three Phase Control Panels



### FEATURES

- NEMA 4X, 30 watt, flashing red light and alarm horn – 95db.
- NEMA 4X, fiberglass enclosure with gasketed, hinged door and stainless steel hardware.

#### Single Phase

- Field adjustable for 115 or 230V, 60 Hz.
- 2 pump circuit breakers.

#### Three Phase

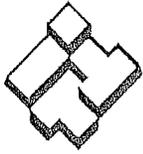
- Field adjustable for 208/230 /460/575V, 60 Hz.
- 115V control circuit transformer.
- 2 adjustable motor overload protectors.
- Heaters not required.
- Provides fully automatic operation for two pumps.
- Solid state pump alternator circuit displays float status for ease of installation and trouble shooting.
- Entire unit is UL and CUL listed.



CentriPro is a brand of ITT  
Residential and Commercial Water.

[www.centripro.com](http://www.centripro.com)

*Engineered for life*



# ITT

# ATTACHMENT "B" (2-3)

## CENTRIPRO Wastewater

### APPLICATIONS

Superior quality duplex liquid level controller, automatic alternation for two pump operation. High level alarm warning designed for a variety of sump, effluent, sewage and water transfer applications.

### SPECIFICATIONS

- Accepts single or dual power feed.
- 2 hand-off-automatic (H-O-A) pump switches.
- On-off control circuit switch.
- 2 oversized magnetic contactors.
- Numbered terminal strip-screw type.
- **Float Switches** – Note: Please order float switches separately. We offer several types and models. See the Float Switch bulletin for available options. The type selected determines the quantity needed. The basin depth and panel location determine the required cord length. Contact your distributor or Customer Service for additional information.
- Electronic pump alternator.
- Alternator selector switch
- Lag pump start delay

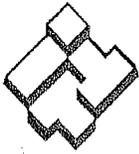
### FEATURES

- Rugged NEMA 4X construction withstands even the most severe weather conditions and prevents corrosion.
- Provides fully automatic operation for two pumps. Alternates pump starting to distribute operating time. Provides extra pumping capacity in times of high inflow by energizing both pumps.

- Hinged door with lockable stainless steel latch for safe operation indoors or out.
- High level alarm circuit includes through door mounted silence switch for manual silence of alarm horn.
- Through door mounted alarm test switch insures proper operation of the alarm circuit without the need to open the panel.
- 2 through door mounted pump run lights.
- Top mounted high intensity flashing red light provides 360° visibility.
- Pulsating, corrosion proof alarm horn.
- These duplex controls are factory wired for operation with three float bulbs. An easy field modification for four float bulb operation using separate "lag-on" and "alarm bulbs" is provided.
- Alternator selector switch allows a choice of automatic alternation or operation of only pump 1 or pump 2. Typically used if one pump is down for maintenance.
- Lag pump start delay built-in. Delays starting lag pump for 5 seconds if both pumps attempt to start simultaneously as after a power outage.
- Panel can be wired for a single power feed for pumps and control circuit or the control circuit can be wired to a separate power supply to insure alarm integrity in case of a tripped main breaker.
- Auxiliary alarm contacts provided for remote alarm connection.
- Color coded wiring, screw type terminals and plug in sockets, ensure ease of field servicing.
- Field wiring diagram, panel schematic and installation instructions included.

### PANEL MODEL INFORMATION

SINGLE PHASE PANELS		THREE PHASE PANELS	
ORDER NUMBER	AMP RANGE	ORDER NUMBER	AMP RANGE
D10020	0-20	D31625	1.6 - 2.5
D12127	21-27	D32540	2.5 - 4.0
D12836	28-36	D34063	4.0 - 6.3
		D36310	6.3 - 10
		D31016	10 - 16
		D31620	16 - 20
		D32025	20 - 25



# ITT

## ATTACHMENT "B" (3-3)

### CENTRIPRO Wastewater

#### ADDITIONAL OPTIONS

Code (add as required)

A = Guaranteed pump submergence circuit

C = 115V condensation heater

D = Single phase lightning arrestor

E = Three phase lightning arrestor

G = Elapsed time meter (2) – Duplex

J = Seal fail circuit (2) – Duplex

L = Cycle counter (2) – Duplex

N = High temp. indicator with pump shutdown – Duplex

P = Special duplex Mini CAS seal fail and high temperature circuit for use on only three phase 15/20GD, 15/20GX and 1GA/2GA pumps.

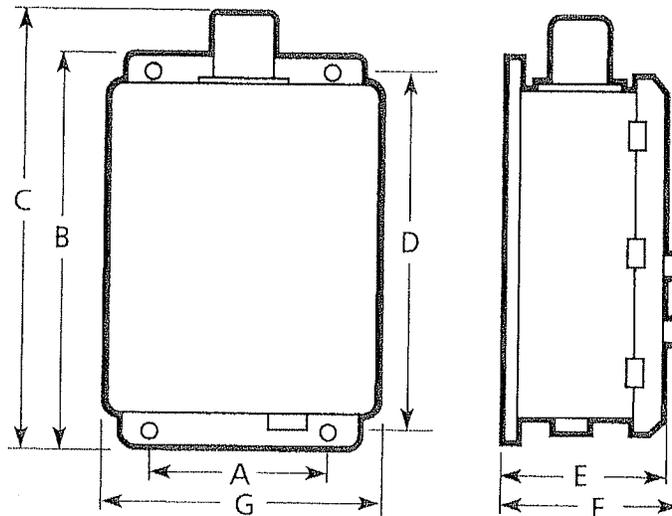
When ordering options, add the appropriate code number as a suffix to the panel order number.

Example...D31625CG adds a cond. heater and (2) elapsed time meters.

#### ENCLOSURE DIMENSIONS (in inches)

Single Phase						
A	B	C	D	E	F	G
10.1	15.5	18.3	14.8	6.8	7.2	13.3
Three Phase						
A	B	C	D	E	F	G
12.1	17.5	20.3	16.8	6.8	7.2	15.3

NOTE: Mounting holes are 1/4".



## ATTACHMENT "C"

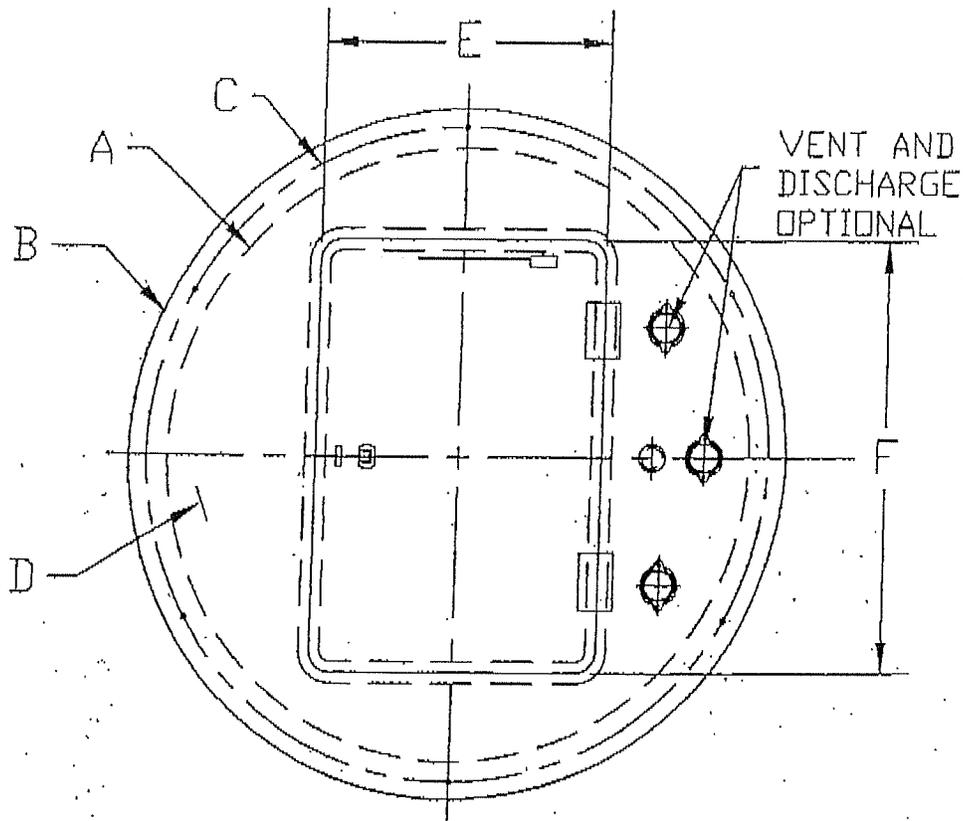
### Access Hatches

1. Acceptable Manufacturers: Access hatches shall be of the size as required by pump manufacturer and shall be manufactured by the following or equal:
  - a. Bilco Company
  - b. Halliday Products
2. Description:
  - a. Access hatches in exterior locations shall be floor door type, designed to withstand a live load of 300 pounds per square foot.
  - b. Door leaves shall be 1/4 inch thick aluminum diamond pattern plate.
  - c. Frame: Angle Frame.
  - d. Hatches shall open to 90 degrees. Devices shall be provided for easy operation, including an automatic hold open arm with release handle for each door leaf. A snap lock with removable handle shall be provided for each hatch.
  - e. Finish: Hatches shall be mill finished. All surfaces of aluminum which will be in contact with concrete or mortar when installed shall be given a heavy coat of coal tar or bituminous paint.

# ATTACHMENT "C"

## STEEL BASIN COVERS WITH HATCH

HINGED AND LOCKABLE  
WITH HOLD OPEN BAR



ALL DIMENSIONS IN INCHES

PART NO.	BASIN INSIDE DIA. "A"	OUTSIDE DIA. "B"	BOLT CIRCLE "C"	THICKNESS "D"	HATCH DOOR WIDTH "E"	HATCH DOOR LENGTH "F"	CLEAR ACCESS WIDTH	CLEAR ACCESS LENGTH
JC24H	24	28	26.50	.180	13	17	12	16
JC30H	30	34	32.50	.250	17	23	16	22
JC36H	36	40	38.50	.250	21	25	20	24
JC42H	42	46	44.50	.250	23	33	22	32
JC48H	48	54	51.00	.250	25	37	24	36
✓ JC60H	60	66	63.00	.312	30	40	29	39

*JACKEL, INC.*

15314 HARRISON ROAD

MISHAWAKA, INDIANA 46544 USA

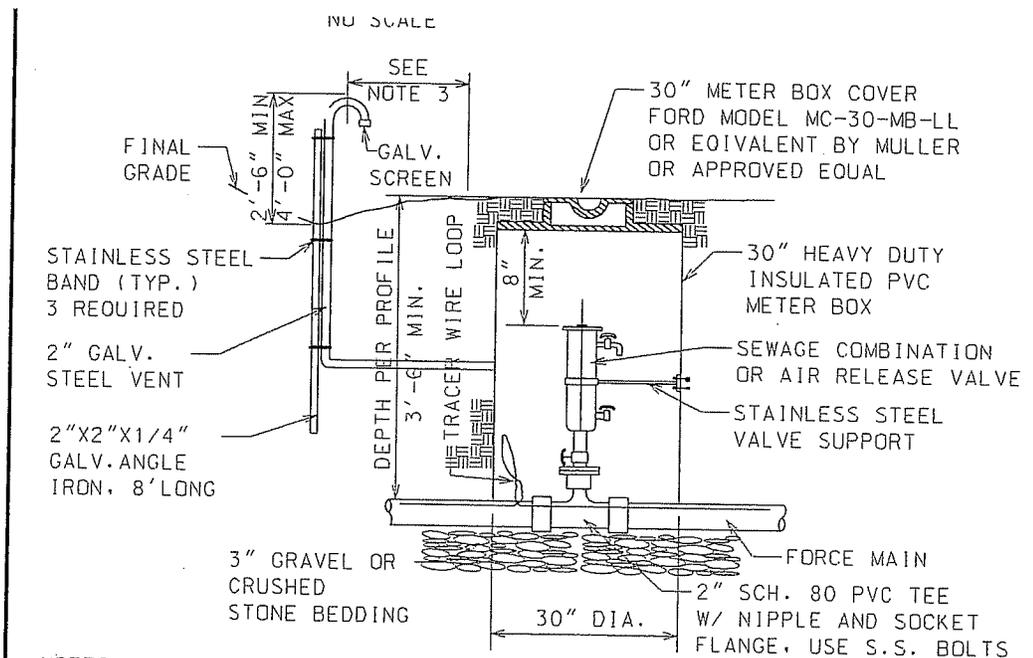
PHONE (219)-256-5635 FAX (219)-256-6966

## ATTACHMENT "D"

### Guide Rails:

1. Stainless-steel pipe, Schedule 40 minimum.
2. All 316 or 304L stainless steel, including rails, brackets, and anchor bolts.
3. Size as recommended by pump manufacturer, 1-1/2-inch minimum dia.
4. Shall not support any portion of the pump weight.
5. Provide stainless steel guide rail supports bolted to wetwell walls, at maximum of 15 foot intervals along rails. Not required when length of guide rails is less than 15 feet.
6. Provide upper guide rail bracket, cast iron or stainless steel.

# ATTACHMENT "E"



## NOTES:

1. SEWAGE COMBINATION AIR RELEASE AND AIR/VACUUM VALVES SHALL BE VALMATIC "VM-801 BW", GA INDUSTRIES "FIGURE 942" OR ENGINEER APPROVED EQUAL. INLET SHALL BE 2" NPT, UNLESS OTHERWISE NOTED ON THE PLANS. OUTLETS SIZE SHALL BE 1" NPT AND AIR RELEASE ORIFICE SHALL BE 5/16" VALVES SHALL BE PROVIDED WITH FLUSHING ATTACHMENT, INCLUDING BRONZE SHUT-OFF AND FLUSHING BALL VALVES, QUICK CONNECTION COUPLING AND 5' OF RUBBER HOSE FOR BACK WASHING WITH CLEAR WATER. THE UNIT SHALL BE COATED WITH AWWA C550 FUSION BONDED EPOXY OR 2-PART EPOXY
2. SEWAGE AIR RELEASE VALVES SHALL BE VALMATIC "VM-488W", GA INDUSTRIES "FIGURE 925", OR ENGINEER APPROVED EQUAL. INLET SHALL BE 2" NPT, UNLESS OTHERWISE NOTED ON THE PLANS. OUTLET SIZE SHALL BE 1/2" NPT AND AIR RELEASE ORIFICE SHALL BE 3/16".
3. LOCATE GOOSENECK AT RIGHT-OF-WAY.
4. IF HEIGHT OF VALVE CAUSES FRAME AND COVER TO BE ABOVE GRADE PERFORM GRADING TO PROVIDE A SMOOTH TRANSITION. DO NOT LOCATE VAULT TO OBSTRUCT DITCH. IF NECESSARY OFFSET ALIGNMENT AT VALVE TO AVOID PLACING STRUCTURE IN DITCH FLOWLINE. ROTATE TOP RING AND COVER TO AVOID DITCH FLOW LINE
5. ALL VALVE VAULTS SHALL HAVE A MARKER POST LOCATED AT THE RIGHT-OF-WAY MARKER POST SHALL BE USA BLUE BOOK FORCEMAIN, "STOCK NO. 70474", RHINO 3 STOCK NO. 70457 WITH DECAL INDICATING SEWER

COMBINATION OR AIR RELEASE VALVE & VAULT  
NO SCALE