VAG
GA INDUSTRIES

Model 7700 Pump Director

Valve and Pump Motor Interface Controller

A Century of Experience

VAG GA Industries valves are known for long term reliability in the most demanding water and wastewater applications. Whether a simple check valve or a complex automatic control valve, each VAG GA Industries valve is built on over 100 years of design, manufacturing and application experience to ensure its dependability and superior performance.

Outstanding Technical Support

From the factory to the field, VAG provides responsive and knowledgeable technical assistance and support. VAG application engineers, and our team of trained and experienced sales representatives, work closely with designers to select the right valve from our broad product range to ensure the valve meets the system requirements. VAG is committed to serving our customers in all phases of the project.

Superior Quality

VAG GA Industries valves are designed in accordance with applicable AWWA and other industry standards and precision manufactured from the highest grade materials. Every valve is tested to ensure it meets our high standards and the latest industry requirements so you can be sure it will operate as expected from the minute it is put in service.

Comprehensive Product Range

We are continuously expanding and improving our product line to meet the ever-changing needs of the waterworks industry. From off-the-shelf standard butterfly and plug valves to sophisticated, highly engineered pump control, check and surge control valves, VAG offers one of the broadest ranges of valves specifically suited to the demanding needs of municipal waterworks.

Model 7700A Pump Director

The Model 7700A is the latest version of the time-proven VAG GA Industries Pump Director, first introduced in 1975. The Model 7700A Pump Director incorporates enhanced features such as PLC-based logic, touch screen control, digital communication capabilities, emergency stop button, NEMA 4X enclosure and five independently adjustable timers.

Normal Pump Operation

With the selector switch in local, pump start up and normal shutdown sequences are initiated via the START and STOP buttons on the touch screen or on a computer screen via the RS-232 connection. With the selector switch in remote, pump start up and normal shutdown are initiated via remote signals to dry contacts in the Model 7700A Pump Director.

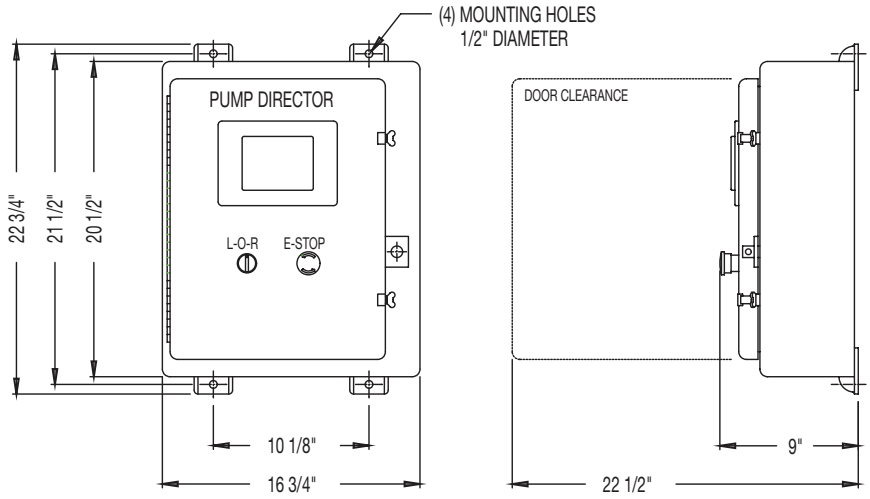
Emergency Pump Shutdown

Emergency shutdown can be manually initiated by depressing the E-Stop button on the Model 7700A enclosure door or automatically upon power outage or other pre-set emergency situations to protect the pump, motor and pump control valve.

Five adjustable digital timers and setup options allow pump motor and pump control valve normal and emergency sequencing to be customized to suit virtually any pumping situation.

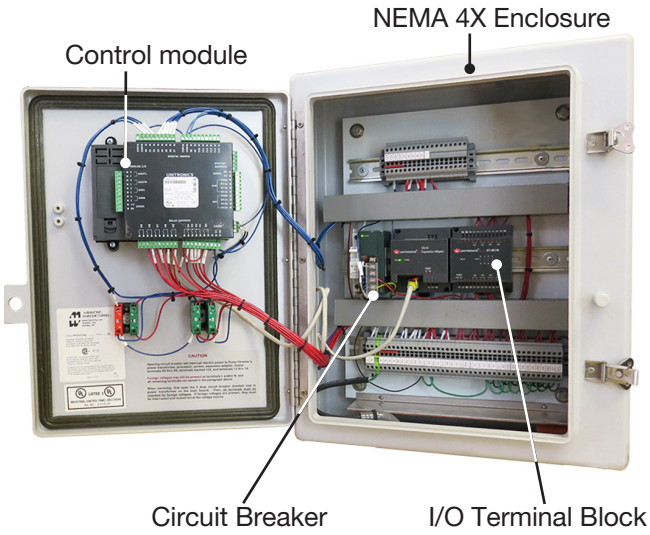
Each pump control valve has its own dedicated Model 7700A Pump Director. It can be installed near the valve it controls or at a more convenient location, as shown above for a (4) pump arrangement.

Dimensions



Model 7700A Pump Director

Pre-wired Valve and Pump Motor Interface Controller



Simple and Reliable

The Model 7700A is a simple interface that provides all the necessary logic to reliably sequence the normal and emergency operation of the pump control valve and the pump motor.

Pre-Wired, Programmed and Tested

The Model 7700A's pre-programmed logic accommodates all the normal and emergency situations that occur in pumping operation.

Touch Screen Technology

User-friendly with easily understandable graphic displays for system setup, pump start, pump stop, as well as real time valve status, fault diagnostics, and alarms.

Local and Remote Operation

The pump start and stop sequence can be initiated locally through the Model 7700A's touch screen or remotely via its RS-232 port or input signals to the terminal strip

Facilitates Installation

Terminal connections are clearly labeled and field wiring is minimized, reducing installation time and start-up issues.

Emergency Stop Button

The Model 7700A includes an emergency stop button on the enclosure door. Depressing this button overrides all other operating commands and initiates an immediate pump shutdown and emergency pump control valve closure.

Easy Setup

Five timer settings can be easily adjusted and default operating options selected either locally using the touch screen or on a remote computer via the Pump Director's RS-232 port.

Versatile

The Model 7700A works in conjunction with any VAG GA Industries pump control valve whether installed on centrifugal, turbine, or submersible pumps with constant or variable speed drives.

VAG GA Industries Industries water and wastewater pump control valves include:

- CHECKtronic® Pump Control Valves
- Resilient Seated Ball Valves
- Metal Seated Ball Valves
- Electric Check Valves

Specification for Pump Director, Model 7700-A

Electronic Controller For Pump Control Valves

General: The Pump Director controller shall function as the interface between the pump control valve and the pump starter. The Pump Director shall properly sequence and control the pump start-up and pump shut-down procedure, providing both visual and electronic status outputs for operating personnel.

The Pump Director shall include automatic recognition of common fault conditions and shall provide proper fault response sequencing to the pump control valve and pump starter as well as visual and electronic fault notification to operating personnel.

Construction: The Pump Director shall include a solid state processor capable of monitoring a minimum of (10) digital input signals, and providing a minimum of (4) powered output signals and (15) digital output signals. The processor shall have a minimum of 2 MB logic memory, minimum 120 K database memory, and 9 µsec scan time.

Local operator status shall be provided by illuminated LCD touchscreen panel, minimum 5.7" screen size, 256 color. Data input shall be possible by virtual keypad via the touchscreen panel. Remote communication and status monitoring shall be available by means of an RS232 port connection.

A regulated power supply shall be provided, suitable for 115 to 120 VAC single phase supply voltage, 50/60 hz, with maximum 30 amp surge current rating. Output voltage shall be regulated 24 VDC ± 5%, 0.6 amp rated with 0.8 amp over-current protection. A separate 5 amp circuit breaker shall be provided on the incoming supply voltage connection.

The Pump Director shall be housed in a NEMA 4X fiberglass enclosure with gasketed door, gasketed touchscreen panel, continuous stainless steel hinge, stainless steel twist/latch door fasteners, and padlockable door hasp.

The enclosure shall include a minimum 120 watt heater with integral thermostat. A gasketed Local-Off-Remote (L-O-R) selector switch shall be provided. A gasketed emergency shut-down pushbutton shall be provided (locking type, with manual reset). Labeled, screw-type terminal blocks shall be provided for all input and output connections and supply voltage connection. A minimum of (8) spare terminal blocks shall be provided.

Inputs: The Pump Director shall be capable of monitoring the following inputs: presence of supply voltage, status of L-O-R selector switch, status of Emergency Shutdown pushbutton, digital remote pump start/stop command signal, two (2) digital valve closed/not closed signals, digital pump discharge pressure switch signal, digital auxiliary system override/shut-down signal, digital remote alarm reset signal.
All digital inputs shall be dry contact type and shall be powered by the Pump Director 24 VDC power supply. Local inputs shall be entered by means of the LCD touchscreen panel and shall include: set-up screen for setting of timers and user-selectable options, local pump start command, local pump stop command, local alarm override command.

Outputs: The Pump Director shall provide the following powered outputs: motor start signal, normal solenoid pilot/valve open signal, emergency solenoid pilot, valve close signal. Powered outputs shall be powered by the incoming VAC supply voltage and protected by the 5 amp circuit breaker.
The Pump Director shall provide the following non-powered digital outputs: motor start signal, normal valve open signal, normal valve close signal, emergency valve close signal, L-O-R switch in Local signal, L-O-R switch in Remote signal, valve not fully closed alarm, auxiliary system override/shutdown alarm, insufficient pressure on start-up alarm, valve failed to open on start-up alarm, loss of pressure while pumping alarm, valve closed without command alarm, valve failed to close after shut-down command alarm, emergency shut-down button activated alarm, power failure alarm. Non-powered outputs shall be dry contact, isolated relay type rated for 230 VAC / 30 VDC with maximum allowable 3 amp rating (resistive load).
Remote monitoring of the Pump Director shall be possible by communication via the RS232 port connection provided within the processor.

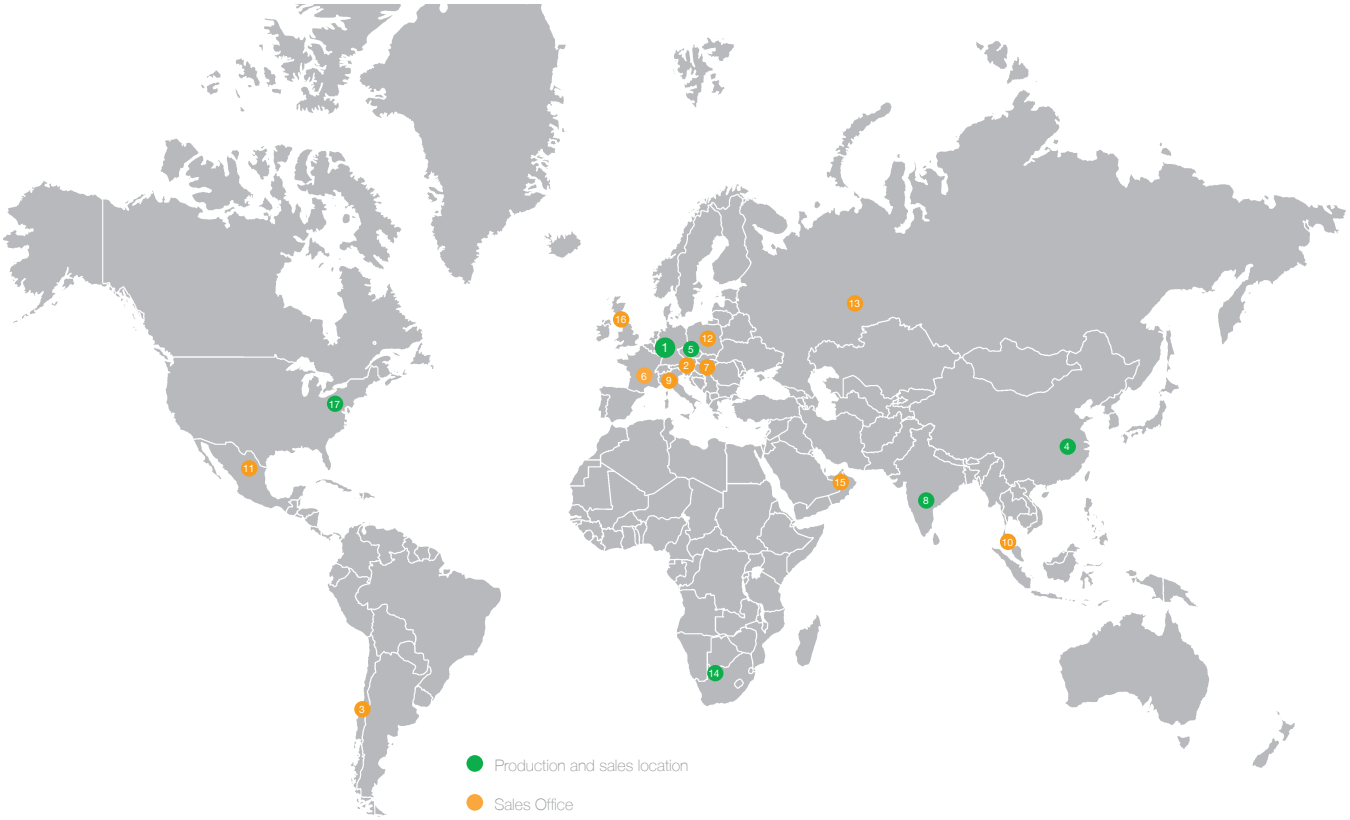
Timers and Settings: The Pump Director shall include the following timers and settings, programmable from a set-up screen and virtual keypad:

VDT Timer - Allowable time for pump to develop pressure on start-up.
VDT-2 Timer - Delay valve opening after pressure developed on start-up.
VIT Timer- Allowable time for valve to begin opening.
VCD Timer - Allowable time for valve to close.
PFT Timer - Delay time for automatic pump re-start following power failure.

If valve fails to close within VCD timer setting, Pump Director can be set to allow pump to continue to run or to initiate an emergency shut-down sequence of valve and pump.

Following a power failure, upon restoration of power, Pump Director can be set to require a reset of the power failure alarm or to permit an automatic restart of the pump upon restoration of power and expiration of the PFT timer setting

Manufacturer: The controller shall be as built by VAG USA LLC, Cranberry Twp., PA and shall be the Model 7700-A Pump Director.



Locations

1	**GERMANY**	**MANNHEIM**
2	AUSTRIA	VIENNA
3	CHILE	SANTIAGO DE CHILE
4	CHINA	TAICANG
5	CZECH REPUBLIC (JMA)	HODONIN
6	FRANCE	CHASSIEU
7	HUNGARY	BUDAPEST
8	INDIA	HYDERABAD
9	ITALY	SAN GIULIANO
10	MALAYSIA	PETALING JAYA
11	MEXICO	MONTERREY
12	POLAND	WARSAW
13	RUSSIA	SAMARA
14	SOUTH AFRICA (VAG/KLAMFLEX)	KRUGERSDORP
15	UAE	DUBAI
16	UK	BIRMINGHAM
17	VAG USA, LLC	CRANBERRY TWP, PA

The VAG USA, LLC is part of a global network with our partner company, VAG-Armaturen GmbH, headquartered in Mannheim, Germany. Together, we have a highly qualified team of service specialists around the world. Our capabilities include:

- **Engineering & technical design**
- **Production**
- **Fabrication**
- **Sales & distribution**
- **Installation & start-up**
- **Aftermarket service**

VAG

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For international sales, please contact our partner company, VAG-Armaturen GmbH, headquartered in Mannheim, Germany.

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