

ACE20 Series Explosionproof Variable Frequency Drives

Cl. I, Div. 1 & 2, Groups B, C, D (UL) NEMA 3, 4X, 7BCD **6C**
Cl. I, Div. 1 & 2, Groups B*, C, D (cUL) Raintight
Wet locations

Utilizes Allen-Bradley® PowerFlex 700® Series Drives

The only explosionproof VFD solution utilizing a NEMA 7 classified enclosure

Eaton's Crouse-Hinds Explosionproof VFDs are highly flexible AC drives designed specifically for hazardous area locations. These drives can be mounted next to the motor in the classified area, providing significant installation cost savings - along with the traditional VFD benefits of energy savings, speed and torque control, and system diagnostics.

This Eaton's Crouse-Hinds innovative product features the first ever NEMA 7 enclosure with active cooling, allowing the solution to be rated Class I, Divisions 1 and 2. It is designed to match the high requirements of pumps, compressors, fans, separators, and mixers in the following process industries:

- Oil and gas/refineries
- OEM skid builders
- Petrochemical
- Water/waste water
- Pharmaceutical
- Food and beverage manufacturing

Applications:

- For speed control of pumps, compressors, fans, conveyors, separators, mixers, and other process equipment
- Designed to meet the high reliability and safety requirements of process industries such as oil and gas, chemical, and mining

ACE Series System Benefits:

Simple, Cost-Effective Installations

- ACE Explosionproof VFDs are installed 'on-machine' inside the hazardous areas, eliminating expensive, complicated installations
- There is no need to run long lines of conduit and motor cable, dig up roadways and sidewalks, navigate around obstacles and hazards or build off-site control rooms in non-hazardous areas to house VFD clusters
- Reflected Wave Syndrome is eliminated due to short motor cable runs

Additional VFD Benefits:

Reduce Energy Costs Through Improved Process Control

- Fine speed and torque control optimizes system performance and reduces energy consumption

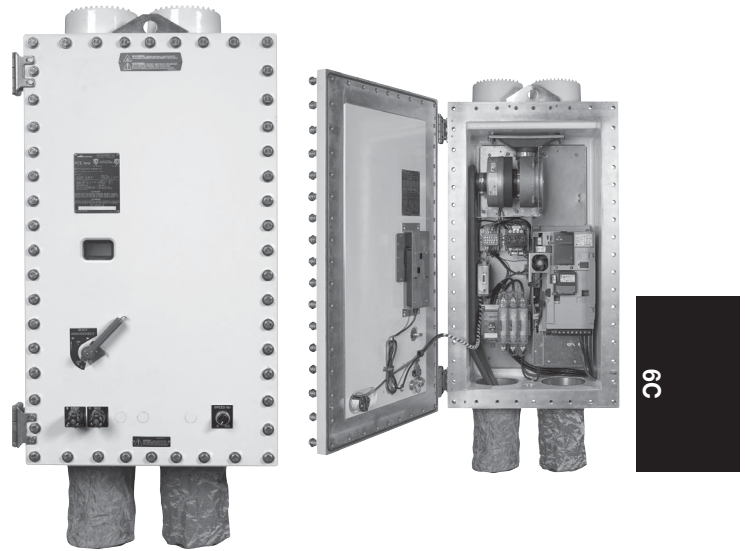
Reduce Operation and Maintenance Costs

- Reduce stress on electrical system
- Reduce water hammer effects with soft start capability
- Lower speed/load on bearings and seals
- Reduce risk of system damage due to cavitation

Avoid Downtime with Real-Time Equipment and Process Data

- Diagnostics help locate disturbances to the system and suggest remedies, allowing proactive maintenance decisions to be made

*5HP and below listed for Group B.



Certifications and Compliances:

- UL Classified
Class I, Divisions 1 and 2, Groups B, C, D
- cUL Classified
Class I, Divisions 1 and 2, Groups B*, C, D
- Standards
UL1203
- Environmental Ratings
NEMA 3, 4X, 7BCD
NEMA 3X rating with PB23 or RR3 options added
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- Operating Temperature Range
0°C to 50°C (32°F to 122°F)

Standard Materials and Finishes:

- Body and Cover – Copper-free aluminum, epoxy powder coated
- Operating Handle – Copper-free aluminum, epoxy painted
- Window – Tempered soda lime glass
- Blower – Aluminum, natural
- Filters – Stainless steel, natural
- Pre-filters – Stainless steel, natural
- Disconnect – Stainless steel, natural
- Shroud – Copper-free aluminum, epoxy painted
- Cover Hinges, Bolts, Washers and Springs – Stainless steel, natural
- Internal Brackets – Stainless steel, natural
- Manifold and Intake – EDPM rubber, natural

Horsepower Ratings:

- Available up to 50HP
- Higher horsepower ratings coming soon

VFD System Specifications:

- Allen-Bradley® PowerFlex 700® Series low voltage, compact AC drives

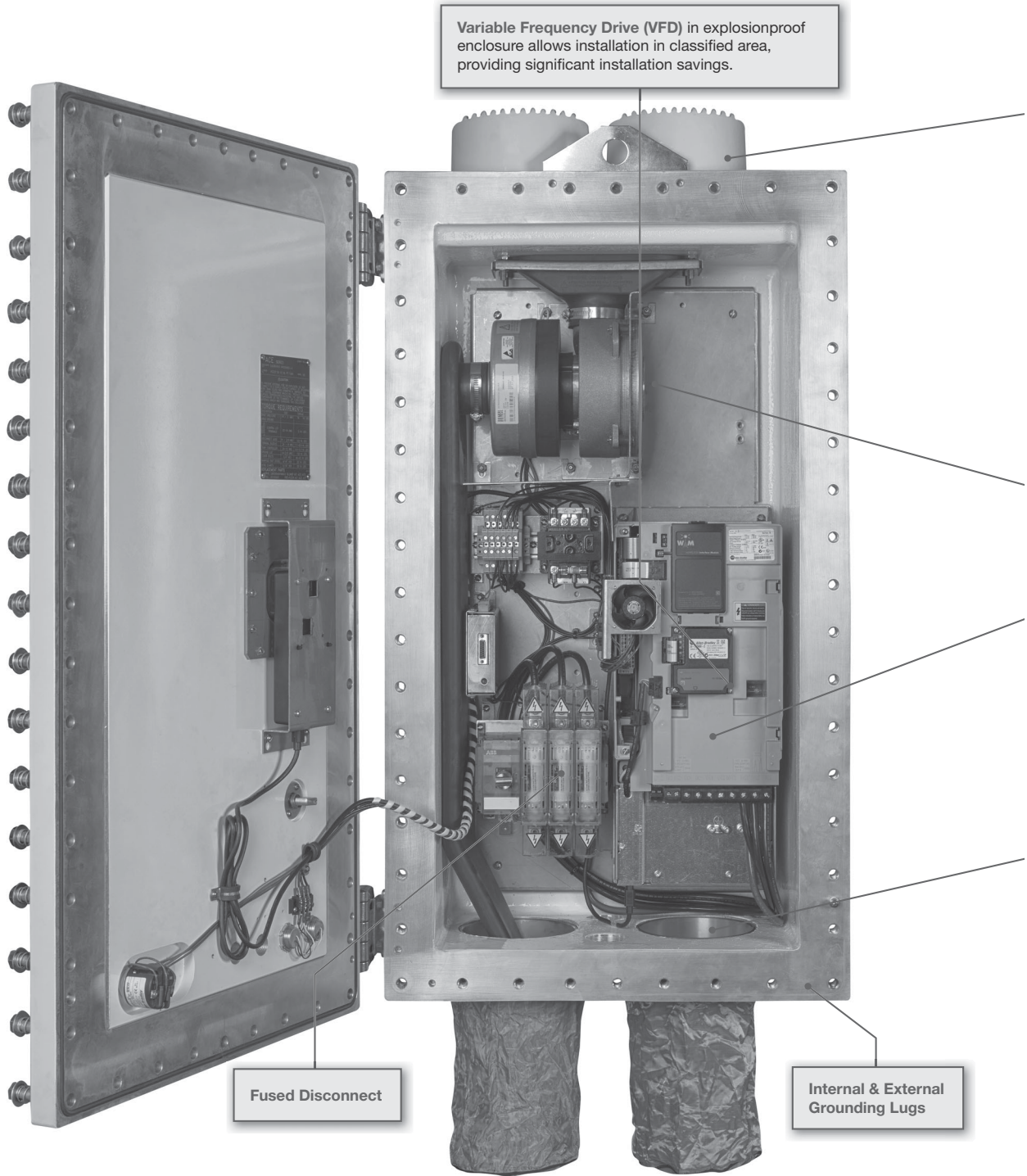
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Variable Frequency Drive (VFD) in explosionproof enclosure allows installation in classified area, providing significant installation savings.

Fused Disconnect

Internal & External Grounding Lugs

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Shroud* covering top filters maintains NEMA 4X rating.

Stainless steel, captive, triple lead quick release spring loaded bolts install faster and provide clear indication that the cover bolts are fully retracted from the body.

Stainless steel hinges provide convenient and easy access to enclosure interior.

Explosionproof window allows for viewing of the VFD interface module LCD screen.

Heavy duty blower* creates airflow through the enclosure, allowing VFD to operate in ambient temperatures up to 50°C.

Wireless Interface Module Option

Filters* in top and bottom of enclosure allow airflow into and out of the enclosure, cooling the VFD and eliminating risk of overheating.

Pre-filter screens* eliminate clogging of the primary filters, ensuring reliable and consistent airflow. Pre-filter screens can be easily removed and cleaned without shutting down operations.

* Heavy duty blower, shroud, filters, and pre-filter screens not included with units containing 1.5 to 5.0 horsepower VFDs.

Explosionproof pilot lights provide run, stop and fault indication.

Optional potentiometer, push-buttons and selector switches

Enclosure epoxy painted for superior corrosion resistance.

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Ordering Information:

Step 1 – Select VFD Horsepower Rating

Cat. #	Nominal Horsepower (KW)	Max. Disconnect Rating (Amps)	Disconnect Fuse Type	Enclosure Size	Input Rating (Amps)	Max. Output Rating (Amps)†	Power Loss (Watts)††	Temp. Rating	VFD Manufacturer Part #
ACE20 1	1				1.6	2.1	63	T6	
ACE20 2	2				2.6	3.4	76	T6	
ACE20 3	3	30	J	1	3.9	5.0	93	T6	20BD027A0AYNANCO
ACE20 5	5				6.9	8.0	164	T6	
ACE20 7	7.5				9.5	11.0	594	T4A	
ACE20 10	10	30	J		12.5	14.0	618	T4A	20BD027A0AYNANCO
ACE20 15	15				19.9	22.0	726	T4A	
ACE20 20	20				24.8	27.0	794	T4A	
ACE20 25	25	60	J	2	31.2	34.0	841	T4A	
ACE20 30	30				36.7	40.0	859	T4A	
ACE20 40	40				47.7	52.0	1010	T4A	20BD065A0AYNANCO
ACE20 50	50	100	J		59.6	65.0	1117	T4A	

Above data is for a 480V drive. For 600V drive, please consult factory.

†De-rating may be required to account for specific environmental conditions (high ambient temperature, altitude, etc.). Consult factory for de-rating information.

††When not installed in a well ventilated environment, provisions must be made to account for heat generation to ensure proper operation of the device.

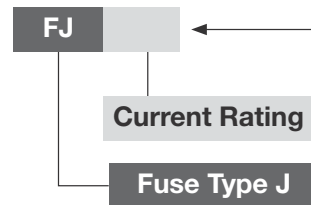
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Step 2 – Add Desired Options

Description	Add Suffix
Communication Modules	
Profibus	CP
Devicenet	CD
CAN Open	CC
Modbus	CM
Ethernet	CE
Wireless	WL
Options	
Potentiometer	PT
Hand-Off-Auto Switch‡	RR3
Pushbutton Start-Stop‡	PB23
600 VAC VFD	Consult Factory

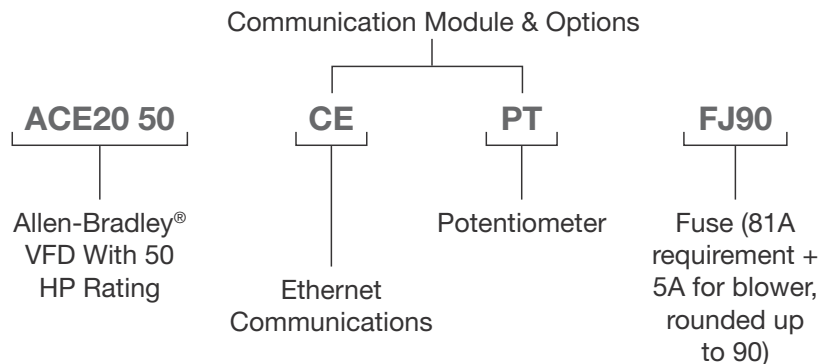
‡RR3 and PB23 cannot be ordered together.

Step 3 – Add Current Rating for Eaton's Bussmann Fuses



Note: Add 5 Amps to your requirements to account for cooling system blower and round up to the nearest increment of 5

Catalog Number Example:



ACE Series Recommended Distributor Stock List:

Description	Cat. #
Pre-filter and hardware (1 pc.)	ACE KIT 1
Filter assembly (1 pc.)	ACE KIT 2
Blower, manifold, and hardware (1 pc.)	ACE KIT 3
Temperature controller (1 pc.)	ACE KIT 5

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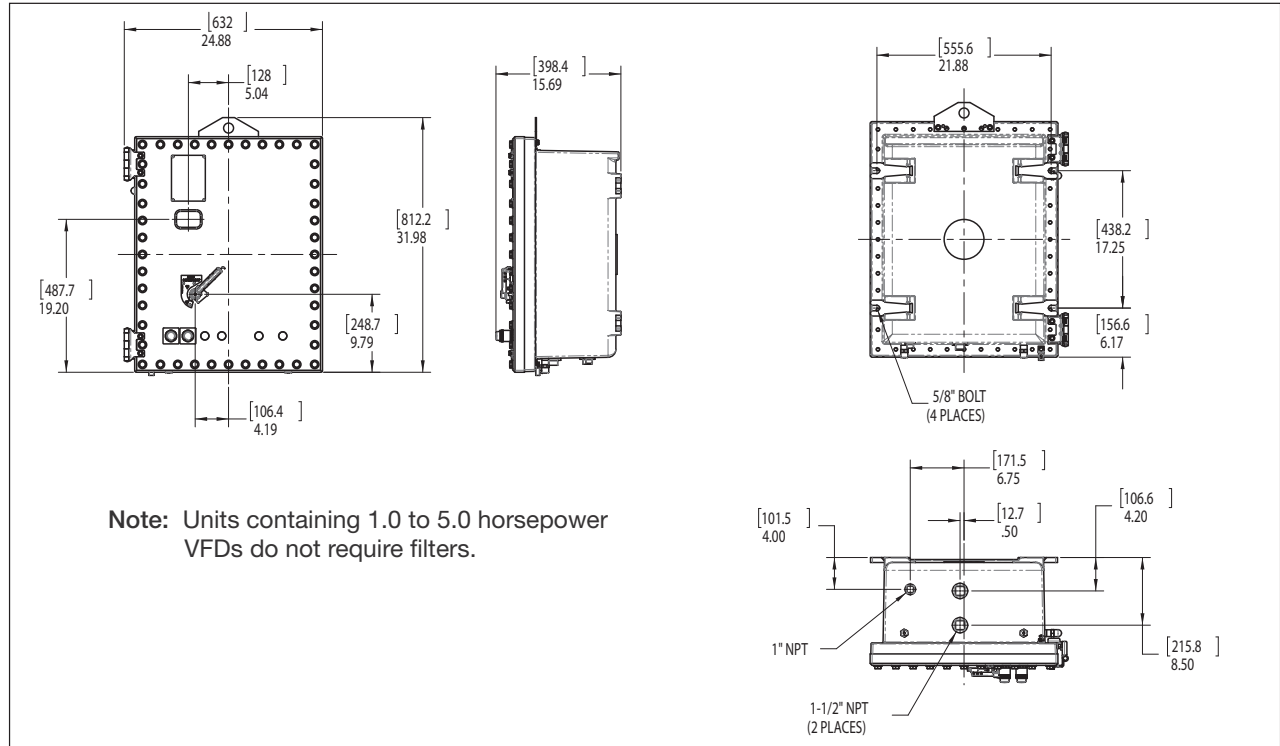
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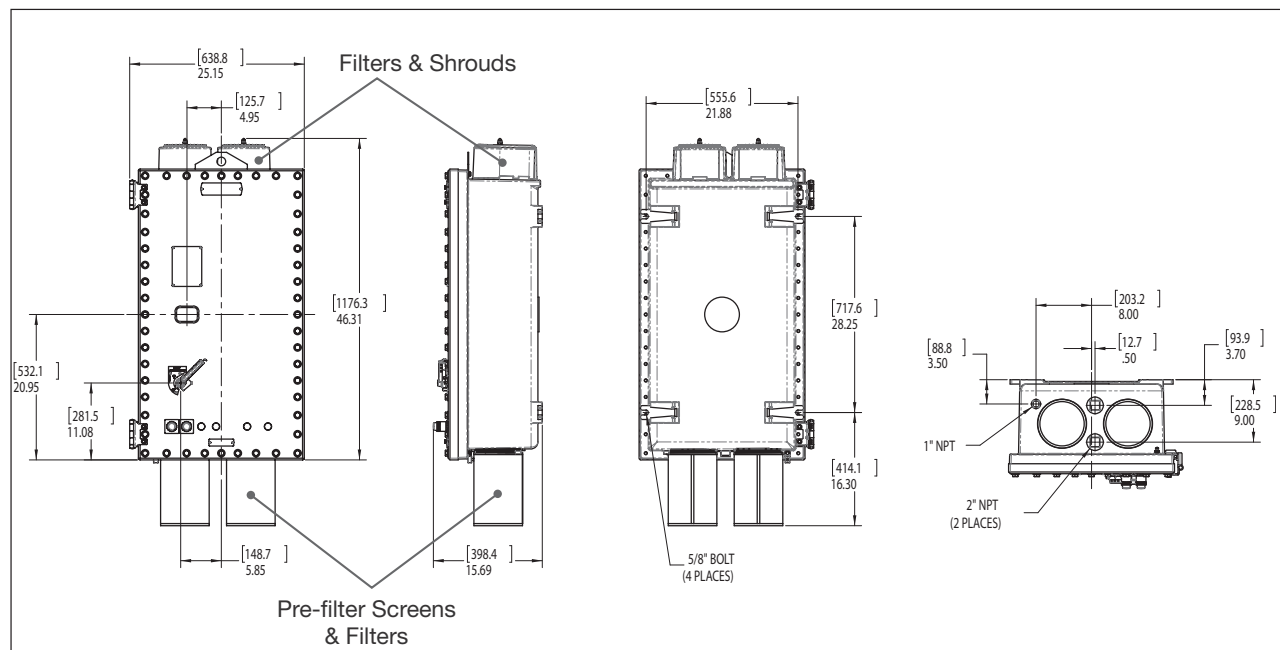
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Dimensions

In Inches:



Enclosure Size 1 (1.0 to 5.0 Horsepower VFDs)



Enclosure Size 2 (7.5 to 50.0 Horsepower VFDs)

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Crouse-Hinds
 by **EATON**

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