ACE10 explosionproof variable frequency drives

Utilizes ABB ACS880-M04 drives

Cl. I, Div. 1 & 2, Groups B, C, D (UL)
Cl. I, Div. 1 & 2, Groups B[A], C, D (cUL)

NEMA 3, 4X, 7BCD
Raintight
Wet locations

The only explosionproof VFD solution utilizing a NEMA 7 classified enclosure

ACE10 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 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

Features:

- 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

Certifications and compliances:

UL classified:

- Class I, Divisions 1 & 2, Groups B, C, D

cUL classified:

- Class I, Divisions 1 & 2, Groups B[A], C, D

UL standard:

- UL1203

Environmental ratings:

- NEMA 3, 4X, 7BCD
- Raintight
- Wet locations

Operating temperature range:

- -10°C to 50°C (14°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 – EPDM rubber, natural

Horsepower ratings:

- Available from 1.5 to 60 HP

VFD system specifications:

- ABB low voltage, compact AC drives:
  – ABB ACS880-M04 series

[A] 5 HP and below listed for Group B.

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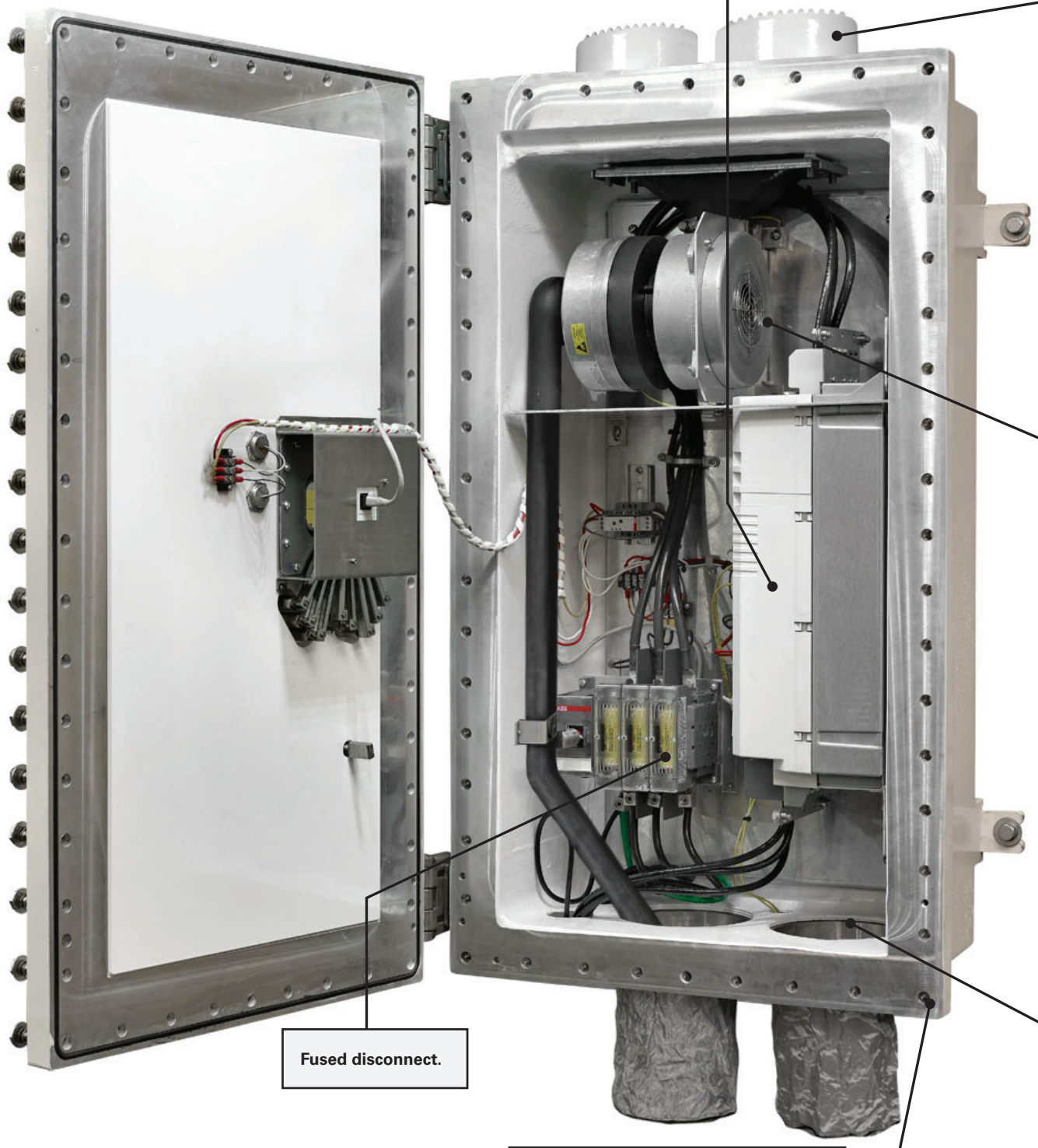
NEMA 3, 4X, 7BCD
Raintight
Wet locations

1.5 to 60 HP



[B] 5 HP and below listed for Group B.

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Cl. I, Div. 1 & 2, Groups B[C], C, D (cUL)

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Shroud[D] 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.

Explosionproof pilot lights provide run, stop and alarm indication.

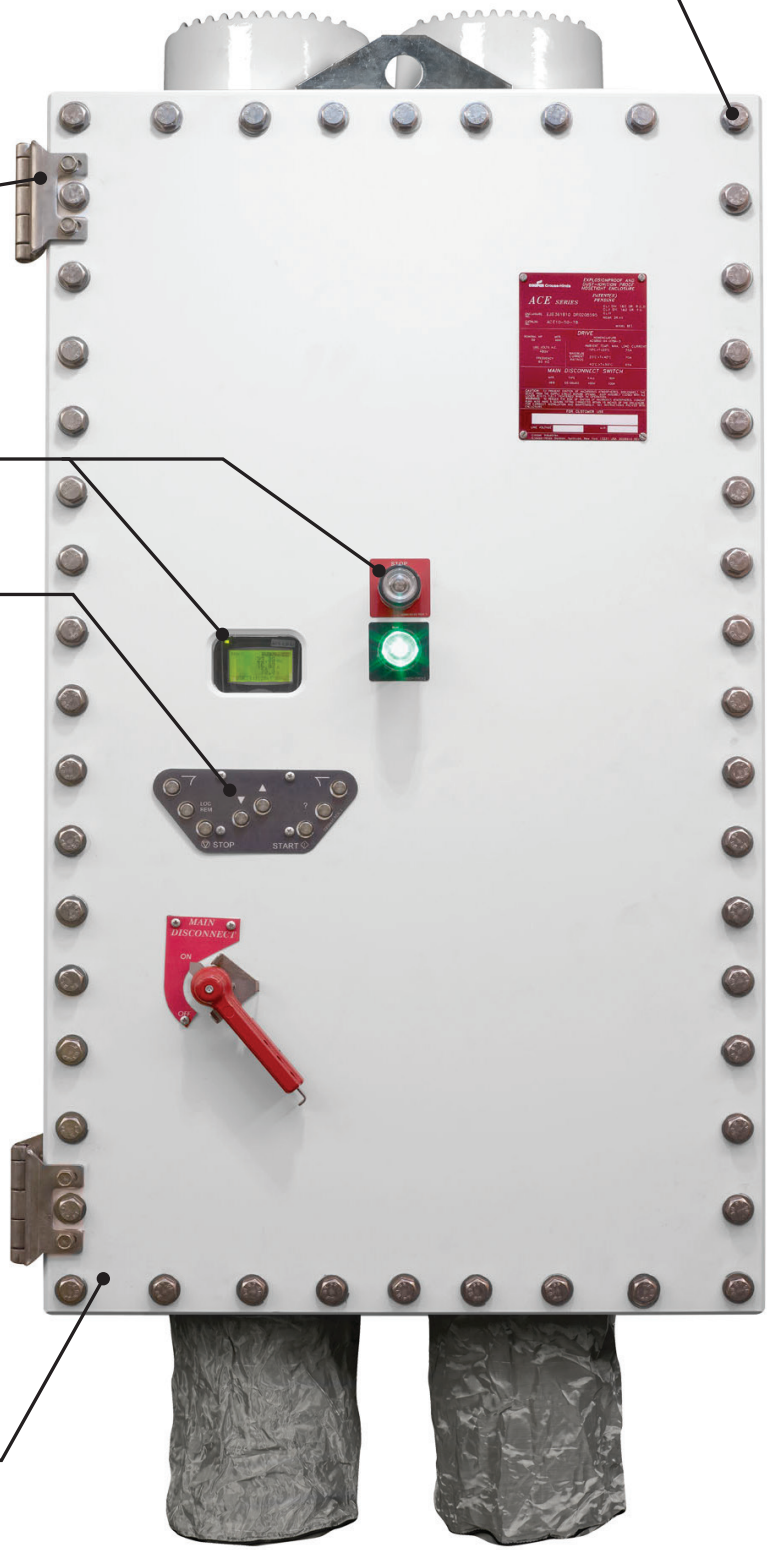
Explosionproof keypad allows operation of VFD interface module without opening the enclosure door.

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

Filters[D] 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[D] (not shown) eliminate clogging of the primary filters, ensuring reliable and consistent airflow. Pre-filter screens can be easily removed and cleaned without shutting down operations.

Enclosure epoxy painted for superior corrosion resistance.



[C] 5 HP and below listed for Group B.

[D] Heavy duty blower, shroud, filters and pre-filter screens not included with units containing 1.5 to 5 HP VFDs.

ACE10 explosionproof variable frequency drives

Utilizes ABB ACS880-M04 drives

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Cl. I, Div. 1 & 2, Groups B[G], C, D (cUL)

NEMA 3, 4X, 7BCD
Raintight
Wet locations

Ordering information:

Horsepower rating

Base cat. #	Nominal HP (kW)	Max. disconnect rating amperage	Disconnect fuse type	Enclosure size	Input rating amperage	Max. output rating amperage	Power loss (watts)	Temperature rating
ACE10 1	1.5 (1.1)	30	J	1	2.3	3.0	106	T6
ACE10 2	2.0 (1.5)	30	J	1	3.1	3.6	112	T6
ACE10 3	3.0 (2.2)	30	J	1	4.0	4.8	132	T6
ACE10 5	5.0 (3.0)	30	J	1	6.6	8.0	178	T6
ACE10 7	7.5 (5.5)	30	J	2	12.0	14.0	606	T4A
ACE10 10	10.0 (7.5)	30	J	2	16.0	18.0	674	T4A
ACE10 15	15.0 (11.0)	60	J	2	20.0	25.0	737	T4A
ACE10 20	20.0 (15.0)	60	J	2	26.0	30.0	847	T4A
ACE10 25	25.0 (18.5)	60	J	2	30.0	35.0	875	T4A
ACE10 30	30.0 (22.0)	60	J	2	42.0	50.0	1008	T4A
ACE10 40	40.0 (30.0)	100	J	2	55.0	58.0	1217	T4A
ACE10 50	50.0 (37.0)	100	J	2	65.0	72.0	1397	T4A
ACE10 60	60.0 (45.0)	100	J	2	82.0	81.0	1577	T4A

Note: Data shown is for standard catalog, 460 VAC drives. Refer to drive manufacturer's manual for all other voltage and performance specifications.

Part number example
ACE10 60 CE PT FJ90

ACE10 60 CE PT FJ90

Horsepower rating

ACE10 60	ABB ACS880-M04 VFD with 60 HP rating

Options (see below)

CE	Ethernet communications
PT	Potentiometer

Current rating

FJ90	Fuse (81A requirement + 5A for blower, rounded up to 90)

Current rating for Bussmann fuses

FJ — Fuse type J; Current rating

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

Fuse ranges:
- 1-10 HP: 1A-30A
- 15-40 HP: 35A-60A
- 50-60 HP: 65A-100A

Options

Communication modules

Suffix	Description
CP	Profibus
CD	Devicenet
CC	CAN open
CM	Modbus
CE	Ethernet

Potentiometer

Suffix	Description
PT	AB 800H-UP29

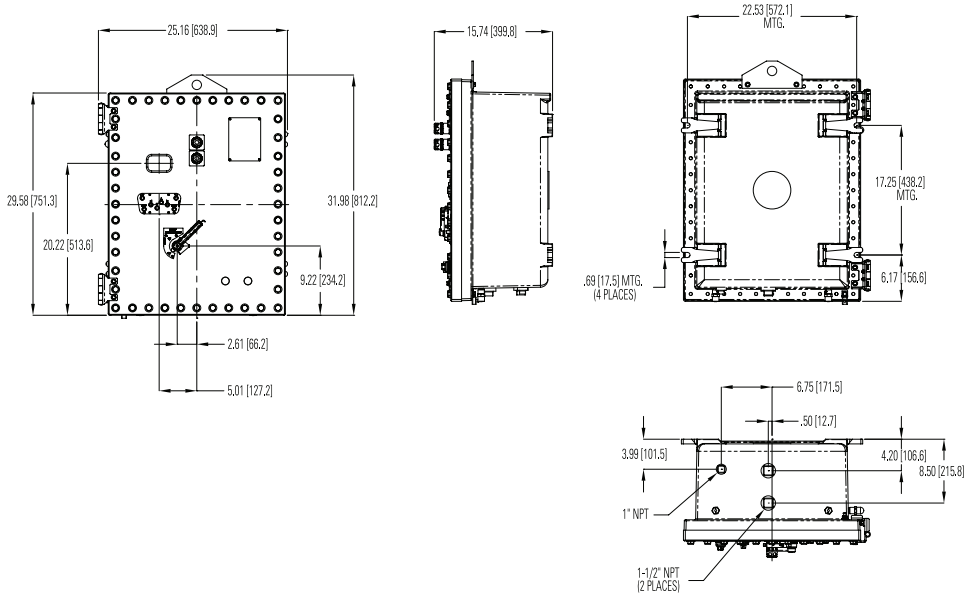
Replacement part kits

Cat. #	Description
ACE KIT 1	Pre-filter and hardware (one-piece)
ACE KIT 2	Filter assembly (one-piece)
ACE KIT 3	Blower, manifold and hardware (one-piece)
ACE KIT 4	Pushbutton operator, finger and hardware (one-piece)
ACE KIT 7	3/8" glass window
ACE KIT 9	Shroud replacement kit

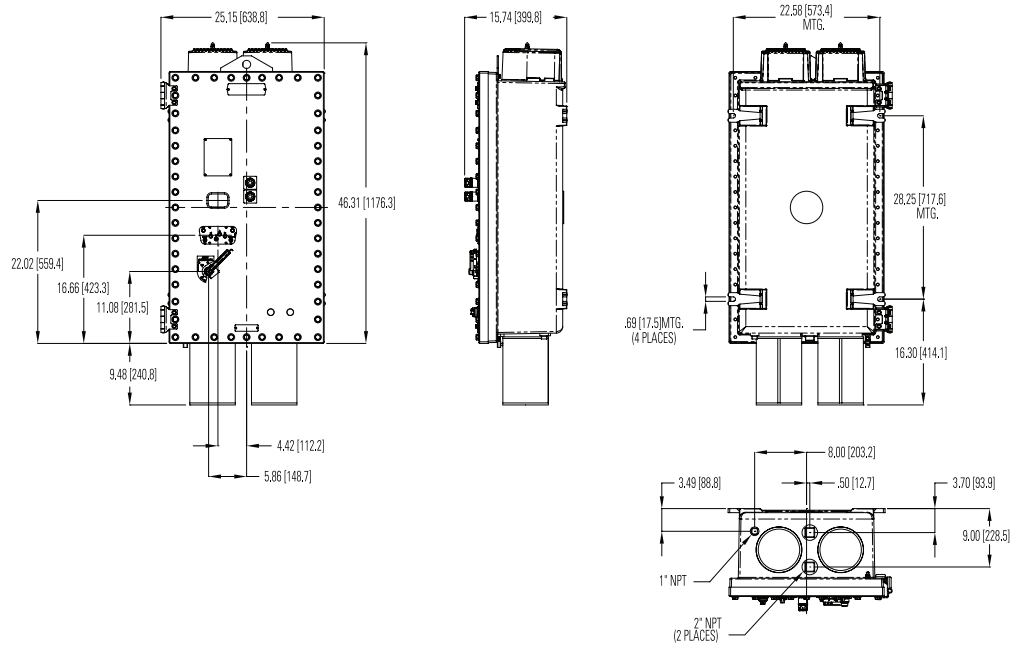
[G] 5 HP and below listed for Group B.

Dimensions:

Enclosure size 1 (1.5 to 5 HP)



Enclosure size 2 (7.5 to 60 HP)



[H] 5 HP and below listed for Group B.