

NITROGEN-PAC™ M SERIES

MODEL CTA COMPRESSOR / TANK ASSEMBLIES

Description

The **UNITED Fire Systems NITROGEN-PAC™ Model CTA Compressor / Tank Assemblies** are a family of assemblies that are used to generate compressed air for a **NITROGEN-PAC™ M Series** nitrogen-based corrosion inhibiting system. Each assembly consists of:

- A two-stage multiple cylinder air compressor.
- An electric motor to drive the compressor.
- An electric contactor assembly to control the operation of the motor.
- A pressure-operated switch to operate the contactor.
- A steel air reservoir (tank) that receives the compressed air.
- A manually operated outlet ball valve to permit shutoff of the compressed air supply.
- A combination filter / regulator to filter the compressed air and regulate the pressure at the device outlet.

The assemblies are packaged and shipped with:

- A length of flexible hose to connect the filter / regulator outlet to the piping carrying the compressed air to the refrigerated dryer. The hose minimizes the transmission of vibration to the piping.
- Qty. (4) vibration pads that can be used to minimize transmission of vibration to the mounting surface.

The Model CTA assembly can provide air for 30-minute fill of dry-pipe and preaction sprinkler piping per NFPA 13, and can supply air to the inlet of a **NITROGEN-PAC™ M Series** Nitrogen Generator Module for production of nitrogen. See Table 1 for compressor capacities. Refer to **UNITED Fire Systems** manual P/N 30-NPMICM-001 for detailed information on choosing the proper assembly.



FIGURE 1
NITROGEN-PAC™ Model CTA
Compressor Tank Assembly
(Vertical Configuration Shown)

TABLE 1 – NITROGEN-PAC™ Model CTA Compressor / Tank Assemblies

Mechanical Specifications

Model Number	Motor HP	Air Reservoir Capacity (Gallons)	Max Outlet Pressure (PSIG)	Capacity (CFM @ Max Pressure)	Bypass Capacity (Gallons)	
					@ 20 PSI	@ 40 PSI
CTA-30 (all models)	3	80	175	11.1	2700	1350
CTA-50 (all models)	5	80	175	17.3	4000	2000
CTA-75 (all models)	7-1/2	120	175	26.9	7700	3350
CTA-100 (all models)	10	120	175	34.4	10,700	5350

TABLE 2 – NITROGEN-PAC™ Model CTA Compressor / Tank Assemblies

Weights and Dimensions

Model Number	Approx. Shipping Weight (lbs.)	Length (L) inches	Width (W) inches	Height (H) inches	Base Bolt Square or Rectangle (in x in)	Outlet Size (NPT)
CTA-30 (all models)	600	34	29	74	25-1/2 x 25-1/2	1/2"
CTA-50 (all models)	670	34	29	74	25-1/2 x 25-1/2	1/2"
CTA-75 Vertical (all models)	930	44	30	75	25-1/2 x 25-1/2	1/2"
CTA-75 Horizontal (all models)	930	63	21	47	40 x 19	1/2"
CTA-100 Vertical (all models)	960	44	30	75	26-1/2 x 26-1/2	3/4"
CTA-100 Horizontal (all models)	960	63	21	47	40 x 19	3/4"

For downloadable architect's specifications and drawing details, go to:

unitedfiresystems.com/product/nitrogen-pac-m-series

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**Data Sheet UFS-352**

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Technical SpecificationsCompressor

- Type: Piston, Cast Iron, Splash-Lubricated
- Stages: Two
- Drive: Belt
- Maximum Outlet Pressure: 175 PSIG
- Capacity: Refer to Table 1

Reservoir (Tank)

- Type: ASME Coded
- Capacity: Refer to Table 1
- Outlet Size: Refer to Table 2
- Drain: Auto-Drain

Motor

- Ratings: Refer to Table 3
- IMPORTANT NOTES FOR CHOICE OF MOTOR
 - To minimize current draw, choose the highest available voltage.
 - Three-phase motors are preferred over single-phase motors.
 - Power source **must** supply rated voltage with minimum possible sag under load.
 - Choose power conductor sizes with due consideration to required ampacity, distance of motor from voltage source, and required starting current.
 - Refer to motor nameplate for further information. Provide power only in accordance with motor nameplate and applicable codes.
 - Contact **UNITED Fire Systems** for additional guidance as necessary.

Factory-Assembled

- Compressor / Tank Assembly
- Contactor / Motor Starter
- Compressor Control Pressure Switch
- Outlet Ball Valve
- Filter / Regulator

Included Loose With Assembly

- Qty. (4) Vibration Pads (Place under base feet at installation)
- Outlet Hose (Connect to outlet of filter / regulator to dampen vibration transmission to pipe)

Instructions

- Refer to **UNITED Fire Systems** manual P/N 30-NPMICM-001 for detailed installation, operation, and maintenance instructions, with checklists for carrying out procedures.

Maintenance Kits

- For CTA-30 and CTA-50 (all models), use Maintenance Kit P/N 30-500500-001, which includes:
 - Qty. (1) Compressor Intake Filter Element
 - Qty. (2) Quarts of Compressor Oil
- For CTA-75 and CTA-100 (all models), use Maintenance Kit P/N 30-500500-002, which includes:
 - Qty. (2) Compressor Intake Filter Elements
 - Qty. (2) Quarts of Compressor Oil

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TABLE 3 – NITROGEN-PAC™ Model CTA Compressor / Tank Assemblies

Electrical Specifications				
Model Number	Motor HP	Motor AC Voltage (V)	Phases	Current Draw (A)
CTA-30-2083-80V	3	208	3	8.5
CTA-30-2301-80V	3	230	1	16.0
CTA-30-2303-80V	3	230	3	8.4
CTA-30-4603-80V	3	460	3	4.2
CTA-50-2083-80V	5	208	3	14.0
CTA-50-2301-80V	5	230	1	20.6
CTA-50-2303-80V	5	230	3	13.2
CTA-50-4603-80V	5	460	3	6.6
CTA-75-2303-120V (Vertical) CTA-75-2303-120H (Horizontal)	7-1/2	230	3	19.4
CTA-75-4603-120V (Vertical) CTA-75-4603-120H (Horizontal)	7-1/2	460	3	9.7
CTA-100-2303-120V (Vertical) CTA-100-2303-120H (Horizontal)	10	230	3	25.0
CTA-100-4603-120V (Vertical) CTA-100-4603-120H (Horizontal)	10	460	3	12.5

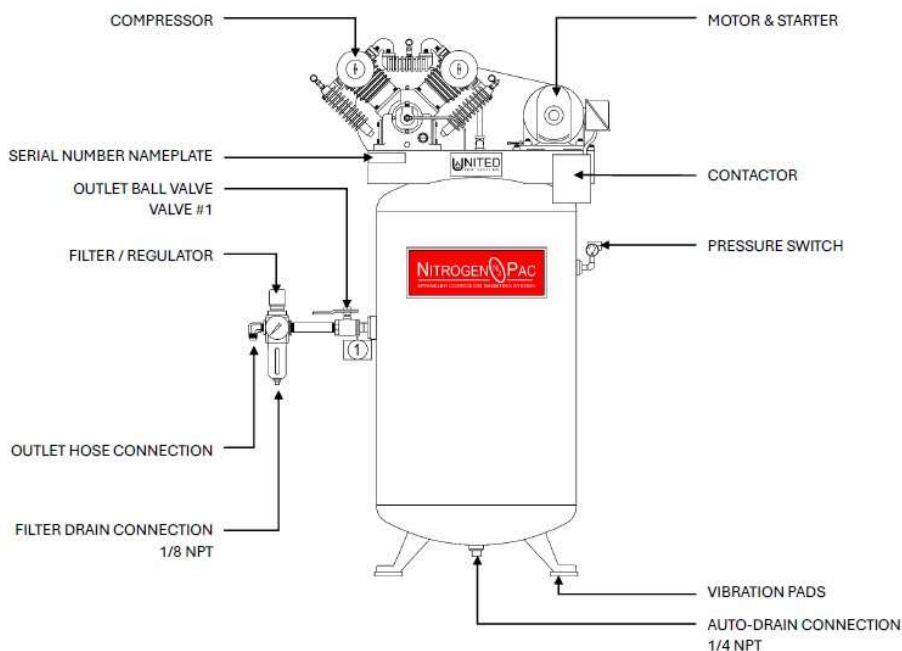


FIGURE 2
NITROGEN-PAC™ MODEL CTA Compressor / Tank Assembly
Component Identification
(Vertical Configuration Shown)

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