

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	@ 30 PSI	@ 40 PSI
CTA-30 (all models)	3	60	175	11.1	1711	1283	855
CTA-50 (all models)	5	80	175	17.3	2734	2050	1367
CTA-75 (all models)	7-1/2	120	175	26.9	4197	3148	2099
CTA-100 (all models)	10	120	175	34.4	5434	4076	2717

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)	580	34	26	74	23 X 23	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 18	3/4"

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

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

UNITED Fire Systems

Division of United Fire Protection Corporation
 1 MARK ROAD
 KENILWORTH, NJ 07033 USA
 PHONE: 908-688-0300
unitedfiresystems.com

This literature is provided for informational purposes only. **UNITED Fire Systems** assumes no responsibility for the product's suitability for a particular application. The product must be properly applied to perform as intended. The information in this document is believed to be correct at the time of publication. **UNITED Fire Systems** reserves the right to add to, delete, or revise any information in this document without notice.



Data Sheet UFS-352

Rev 1.00 Page 2 of 3



NITROGEN-PAC™ M SERIES MODEL CTA COMPRESSOR / TANK ASSEMBLIES

Technical Specifications

Compressor

- 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)
- Qty. (2) Quarts of Compressor Oil (Add oil to compressor crankcase after installation BEFORE starting motor)
- 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

UNITED Fire Systems

Division of United Fire Protection Corporation
1 MARK ROAD
KENILWORTH, NJ 07033 USA
PHONE: 908-688-0300
unitedfiresystems.com

This literature is provided for informational purposes only. **UNITED Fire Systems** assumes no responsibility for the product's suitability for a particular application. The product must be properly applied to perform as intended. The information in this document is believed to be correct at the time of publication. **UNITED Fire Systems** reserves the right to add to, delete, or revise any information in this document without notice.



**NITROGEN-PAC™ M SERIES
MODEL CTA COMPRESSOR / TANK ASSEMBLIES**

TABLE 3 – NITROGEN-PAC™ Model CTA Compressor / Tank Assemblies				
Electrical Specifications				
Model Number	Motor HP	Motor AC Voltage (V)	Phases	Current Draw (A)
CTA-30-2083-60V	3	208	3	8.5
CTA-30-2301-60V	3	230	1	16.0
CTA-30-2303-60V	3	230	3	8.4
CTA-30-4603-60V	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

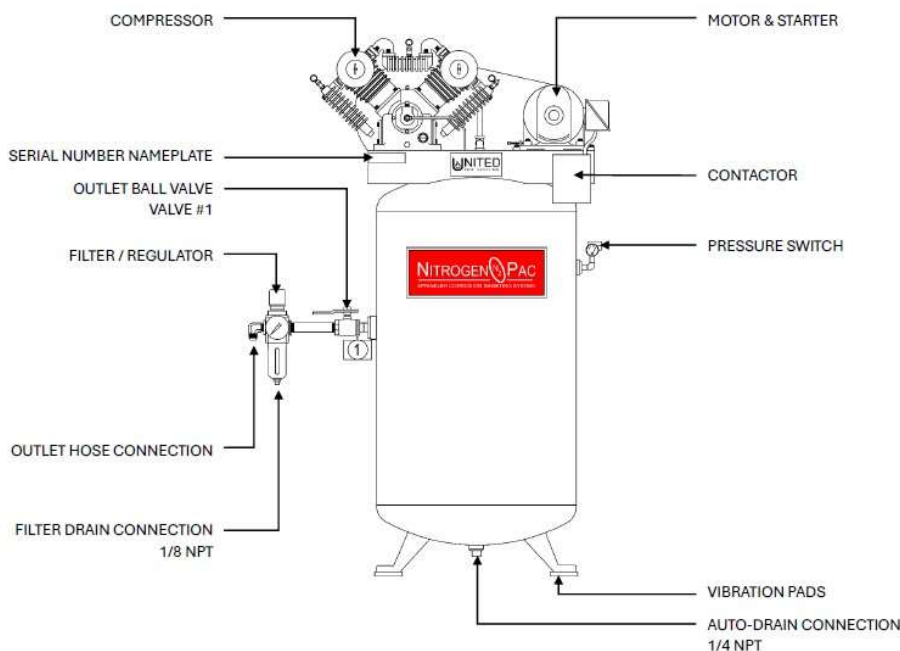


FIGURE 2
NITROGEN-PAC™ MODEL CTA Compressor / Tank Assembly
Component Identification
(Vertical Configuration Shown)

UNITED Fire Systems

Division of United Fire Protection Corporation
1 MARK ROAD
KENILWORTH, NJ 07033 USA
PHONE: 908-688-0300
unitedfiresystems.com

This literature is provided for informational purposes only. UNITED Fire Systems assumes no responsibility for the product's suitability for a particular application. The product must be properly applied to perform as intended. The information in this document is believed to be correct at the time of publication. UNITED Fire Systems reserves the right to add to, delete, or revise any information in this document without notice.