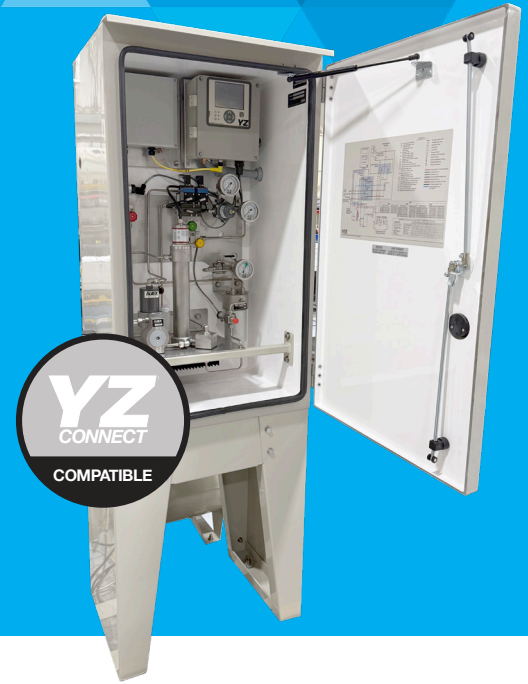


# NJEX<sup>®</sup> Odorant Injection System

## Models 7400 and 7402

NJEX 7400 and 7402 odorant injection systems inject precise amounts of liquid odorant into cubic feet or meters of gas that flows down a pipeline to ensure detectability. These mid-use, primary odorizers provide proportional-to-flow odorant injection, onboard metering of the odorant injected, system monitoring and alarm notification. Additionally the system will document and verify the performance of each system component, parameter changes, alarms and injection rates. Available in a single or dual-unit configuration, the systems are capable of accurately injecting up to 67 liters/day (17.6 gallons/day).



## Features and Benefits

- ✓ Patented, pneumatically-actuated, positive-displacement, reciprocating plunger pump
- ✓ Teflon diaphragm isolates all dynamic seals from the odorant
- ✓ 67 liters/day (17.6 gallons/day) maximum odorant output
- ✓ Versatile, electronic controller for proportional-to-flow or time-based operation
- ✓ Real-time system monitoring and alarm notifications
- ✓ Remote communication via ModBus or Sentry4 Software
- ✓ Intrinsically safe electronics
- ✓ Single or dual configuration to meet application requirements
- ✓ Weatherproof enclosure for protection from the elements

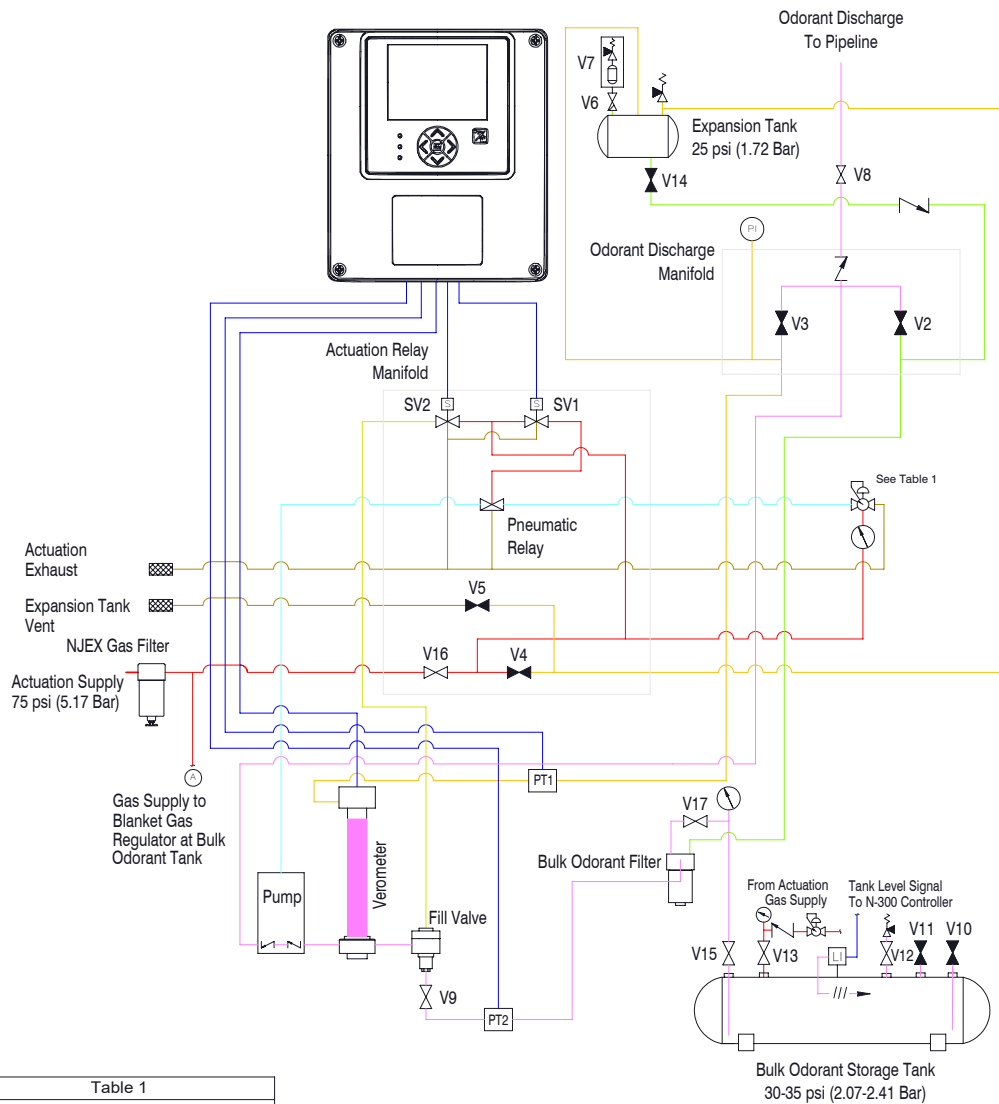
## Specification

|                                       |                                                                       |
|---------------------------------------|-----------------------------------------------------------------------|
| Maximum odorant output                | 67 liters/day (17.6 gallons/day)                                      |
| Maximum operating pressure            | 99.28 bar (1440 psig)                                                 |
| Operating temperature range           | -20°C to 60°C (0°F to 140°F) <sup>1</sup>                             |
| Power supply                          |                                                                       |
| Standard                              | Customer Supplied Intrinsically Safe 24VDC                            |
| Optional                              | EPO 120/240 VAC, 50/60 Hz supply                                      |
| Battery reserve (both standard & EPO) | Approximately 14 days <sup>2</sup> . Non-rechargeable lithium battery |
| Gas flow rate input signal            | 1-5 VDC, 4-20 mA or pulse                                             |

<sup>1</sup>At temperatures below 0°C (32°F) conditioning of the actuation gas supply may be required

<sup>2</sup>Dependent on ambient temperature and stroke rate.

## System Schematic



| Table 1                       |                    |
|-------------------------------|--------------------|
| 7400                          |                    |
| Pipeline Pressure             | Actuation Pressure |
| 100-200 psi (6.89-13.8 Bar)   | 30 psi (2.07 Bar)  |
| 200-400 psi (13.8-27.6 Bar)   | 35 psi (2.41 Bar)  |
| 400-600 psi (27.6-41.4 Bar)   | 40 psi (2.76 Bar)  |
| 600-800 psi (41.4-55.2 Bar)   | 45 psi (3.11 Bar)  |
| 800-1000 psi (55.2-68.9 Bar)  | 50 psi (3.45 Bar)  |
| 1000-1440 psi (68.9-99.3 Bar) | 60 psi (4.14 Bar)  |

### LEGEND

|                             |                                    |
|-----------------------------|------------------------------------|
| Normally Closed Valve       | Liquid Odorant - Normal Operation  |
| Normally Open Valve         | Purge/Drain Line                   |
| Pneumatic Relay             | Expansion Line                     |
| Check Valve                 | Intrinsically Safe Electrical Line |
| Float Valve                 | Exhaust/Vent Line                  |
| Pressure Gauge              | Actuation Line 75 psi (5.17 Bar)   |
| Electronic Level Transducer | Fill Valve Actuation Line          |
| Solenoid Valve              | Pump Actuation Line                |
| Pressure Regulator w/Gauge  | See Table 1                        |
| Pressure Relief Valve       |                                    |
| Pressure Transducer         |                                    |

### IMPORTANT: Read And Follow Steps 1-4 BEFORE Proceeding

- Place the controller in the "standby" mode.
  - Close all valves marked "X".
  - Open all valves marked "O".
  - Place controller in the proper mode of operation as needed.
- - Open to build pressure to 60 psi (4.14 Bar) then close valve  
\* - Adjust as needed

|                  | V2 | V3 | V4 | V5 | V6 | V8 | V9 | V10 | V11 | V12 | V13 | V14 | V15 | V16 | V17 |
|------------------|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| Normal Operation | X  | X  | X  | X  | O  | O  | *  | X   | X   | O   | O   | X   | O   | O   | O   |
| System Purge     | O  | X  | ●  | X  | X  | X  | *  | X   | X   | O   | O   | X   | O   | O   | O   |
| System Vent      | O  | O  | X  | O  | X  | X  | *  | X   | X   | O   | O   | X   | O   | O   | X   |
| Leak Test        | O  | O  | O  | X  | X  | X  | *  | X   | X   | O   | O   | X   | O   | O   | X   |
| Prime Pump       | X  | O  | X  | X  | O  | O  | *  | X   | X   | O   | O   | X   | O   | O   | O   |

|     |                                                   |
|-----|---------------------------------------------------|
| V2  | Purge Valve (Red Knob)                            |
| V3  | Prime Valve (Blue Knob)                           |
| V4  | Expansion Tank                                    |
| V5  | Pressure Supply Valve (Gold Knob)                 |
| V6  | Expansion Tank                                    |
| V7  | Vent Valve (Green Knob)                           |
| V8  | Expansion Tank Overflow Preventor Isolation Valve |
| V9  | Expansion Tank Overflow Preventor Isolation Valve |
| V10 | Expansion Tank Overflow Preventor Isolation Valve |
| V11 | Expansion Tank Overflow Preventor Isolation Valve |
| V12 | Expansion Tank Overflow Preventor Isolation Valve |
| V13 | Expansion Tank Overflow Preventor Isolation Valve |
| V14 | Expansion Tank Overflow Preventor Isolation Valve |
| V15 | Expansion Tank Overflow Preventor Isolation Valve |
| V16 | Expansion Tank Overflow Preventor Isolation Valve |
| V17 | Expansion Tank Overflow Preventor Isolation Valve |

|      |                                             |
|------|---------------------------------------------|
| V12  | Odorant Storage Tank                        |
| V13  | Relief Valve Isolation Valve                |
| V14  | Odorant Storage Tank                        |
| V15  | Blanket Gas Isolation Valve                 |
| V16  | Expansion Tank Drain Valve                  |
| V17  | Odorant Storage Tank Supply Isolation Valve |
| V18  | Blanket Gas Isolation Valve                 |
| V19  | Expansion Tank Drain Valve                  |
| V20  | Odorant Storage Tank Supply Isolation Valve |
| V21  | Blanket Gas Isolation Valve                 |
| V22  | Expansion Tank Drain Valve                  |
| V23  | Odorant Storage Tank Supply Isolation Valve |
| V24  | Blanket Gas Isolation Valve                 |
| V25  | Expansion Tank Drain Valve                  |
| V26  | Odorant Storage Tank Supply Isolation Valve |
| V27  | Blanket Gas Isolation Valve                 |
| V28  | Expansion Tank Drain Valve                  |
| V29  | Odorant Storage Tank Supply Isolation Valve |
| V30  | Blanket Gas Isolation Valve                 |
| V31  | Expansion Tank Drain Valve                  |
| V32  | Odorant Storage Tank Supply Isolation Valve |
| V33  | Blanket Gas Isolation Valve                 |
| V34  | Expansion Tank Drain Valve                  |
| V35  | Odorant Storage Tank Supply Isolation Valve |
| V36  | Blanket Gas Isolation Valve                 |
| V37  | Expansion Tank Drain Valve                  |
| V38  | Odorant Storage Tank Supply Isolation Valve |
| V39  | Blanket Gas Isolation Valve                 |
| V40  | Expansion Tank Drain Valve                  |
| V41  | Odorant Storage Tank Supply Isolation Valve |
| V42  | Blanket Gas Isolation Valve                 |
| V43  | Expansion Tank Drain Valve                  |
| V44  | Odorant Storage Tank Supply Isolation Valve |
| V45  | Blanket Gas Isolation Valve                 |
| V46  | Expansion Tank Drain Valve                  |
| V47  | Odorant Storage Tank Supply Isolation Valve |
| V48  | Blanket Gas Isolation Valve                 |
| V49  | Expansion Tank Drain Valve                  |
| V50  | Odorant Storage Tank Supply Isolation Valve |
| V51  | Blanket Gas Isolation Valve                 |
| V52  | Expansion Tank Drain Valve                  |
| V53  | Odorant Storage Tank Supply Isolation Valve |
| V54  | Blanket Gas Isolation Valve                 |
| V55  | Expansion Tank Drain Valve                  |
| V56  | Odorant Storage Tank Supply Isolation Valve |
| V57  | Blanket Gas Isolation Valve                 |
| V58  | Expansion Tank Drain Valve                  |
| V59  | Odorant Storage Tank Supply Isolation Valve |
| V60  | Blanket Gas Isolation Valve                 |
| V61  | Expansion Tank Drain Valve                  |
| V62  | Odorant Storage Tank Supply Isolation Valve |
| V63  | Blanket Gas Isolation Valve                 |
| V64  | Expansion Tank Drain Valve                  |
| V65  | Odorant Storage Tank Supply Isolation Valve |
| V66  | Blanket Gas Isolation Valve                 |
| V67  | Expansion Tank Drain Valve                  |
| V68  | Odorant Storage Tank Supply Isolation Valve |
| V69  | Blanket Gas Isolation Valve                 |
| V70  | Expansion Tank Drain Valve                  |
| V71  | Odorant Storage Tank Supply Isolation Valve |
| V72  | Blanket Gas Isolation Valve                 |
| V73  | Expansion Tank Drain Valve                  |
| V74  | Odorant Storage Tank Supply Isolation Valve |
| V75  | Blanket Gas Isolation Valve                 |
| V76  | Expansion Tank Drain Valve                  |
| V77  | Odorant Storage Tank Supply Isolation Valve |
| V78  | Blanket Gas Isolation Valve                 |
| V79  | Expansion Tank Drain Valve                  |
| V80  | Odorant Storage Tank Supply Isolation Valve |
| V81  | Blanket Gas Isolation Valve                 |
| V82  | Expansion Tank Drain Valve                  |
| V83  | Odorant Storage Tank Supply Isolation Valve |
| V84  | Blanket Gas Isolation Valve                 |
| V85  | Expansion Tank Drain Valve                  |
| V86  | Odorant Storage Tank Supply Isolation Valve |
| V87  | Blanket Gas Isolation Valve                 |
| V88  | Expansion Tank Drain Valve                  |
| V89  | Odorant Storage Tank Supply Isolation Valve |
| V90  | Blanket Gas Isolation Valve                 |
| V91  | Expansion Tank Drain Valve                  |
| V92  | Odorant Storage Tank Supply Isolation Valve |
| V93  | Blanket Gas Isolation Valve                 |
| V94  | Expansion Tank Drain Valve                  |
| V95  | Odorant Storage Tank Supply Isolation Valve |
| V96  | Blanket Gas Isolation Valve                 |
| V97  | Expansion Tank Drain Valve                  |
| V98  | Odorant Storage Tank Supply Isolation Valve |
| V99  | Blanket Gas Isolation Valve                 |
| V100 | Expansion Tank Drain Valve                  |
| V101 | Odorant Storage Tank Supply Isolation Valve |
| V102 | Blanket Gas Isolation Valve                 |
| V103 | Expansion Tank Drain Valve                  |
| V104 | Odorant Storage Tank Supply Isolation Valve |
| V105 | Blanket Gas Isolation Valve                 |
| V106 | Expansion Tank Drain Valve                  |
| V107 | Odorant Storage Tank Supply Isolation Valve |
| V108 | Blanket Gas Isolation Valve                 |
| V109 | Expansion Tank Drain Valve                  |
| V110 | Odorant Storage Tank Supply Isolation Valve |
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| V112 | Expansion Tank Drain Valve                  |
| V113 | Odorant Storage Tank Supply Isolation Valve |
| V114 | Blanket Gas Isolation Valve                 |
| V115 | Expansion Tank Drain Valve                  |
| V116 | Odorant Storage Tank Supply Isolation Valve |
| V117 | Blanket Gas Isolation Valve                 |
| V118 | Expansion Tank Drain Valve                  |
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| V120 | Blanket Gas Isolation Valve                 |
| V121 | Expansion Tank Drain Valve                  |
| V122 | Odorant Storage Tank Supply Isolation Valve |
| V123 | Blanket Gas Isolation Valve                 |
| V124 | Expansion Tank Drain Valve                  |
| V125 | Odorant Storage Tank Supply Isolation Valve |
| V126 | Blanket Gas Isolation Valve                 |
| V127 | Expansion Tank Drain Valve                  |
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| V154 | Expansion Tank Drain Valve                  |
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| V163 | Expansion Tank Drain Valve                  |
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| V199 | Expansion Tank Drain Valve                  |
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