



## **EJA-2000C Ejector Assembly**

Installation, Operation & Maintenance

**General:** The Archer Instruments ejector assembly is designed to provide vacuum induction and to prevent motive water from entering the vacuum lines.

## **Installing the Ejector Assembly:**

### **Important Notes:**

- \* The EJA-2000C ejector offers 2" Sch80 PVC "Van Stone" style 4-bolt flanged process connections. Mating flanges, gaskets, bolts & nuts are provided.
- \* When selecting pipe and fitting materials to be used with the ejector, it is important to understand that the water discharge from the ejector will carry a highly chlorinated solution. Schedule 80 PVC is suitable for most installations and is generally recommended.

- 1) Prior to cutting pipe for installation, remember to factor in the thickness of two (2) flange gaskets.
- 2) After careful measurements are made, install the 2" PVC mating flanges and allow an appropriate amount of time for the PVC cement to dry before installing the ejector.
- 3) Using the gaskets and hardware provided, install the EJA-2000C ejector with the nozzle side of the ejector (the shorter side) upstream and the diffuser side (the longer side) downstream.

## **Operating the Ejector Assembly:**

- 1) After installation, the ejector should be tested for proper operation before connecting the piping. Make sure all valves are aligned properly and provide motive water to the ejector.
- 2) When motive water is supplied a vacuum should be felt at the vacuum union. If no vacuum is felt, investigate both the supply pressure and backpressure and consult the appropriate nozzle performance table (included in this manual).
- 3) Next, shut off the water flow and observe the vacuum union for any indication of water. The ejector assembly incorporates a spring loaded, normally closed diaphragm check valve and is designed to prevent any water from entering the vacuum piping.
- 4) Once it has been confirmed that the ejector is working properly, the ejector is ready for use. Connect the vacuum union (PVC socket-connection) to the rest of the gas feed system.

NOTE: The ejector check valve requires regular maintenance to prevent water from flooding the gas lines. It is generally recommended that the check valve be rebuilt once per year. However, this is only a rule of thumb. Some applications involve frequent start / stop cycles and high back pressures. In these applications the elastomers in the check valve will wear more rapidly than in applications where the ejector operates constantly.

## **Maintaining the Ejector Assembly:**

Recommended Maintenance Frequency: Archer Instruments recommends yearly maintenance of the ejector.

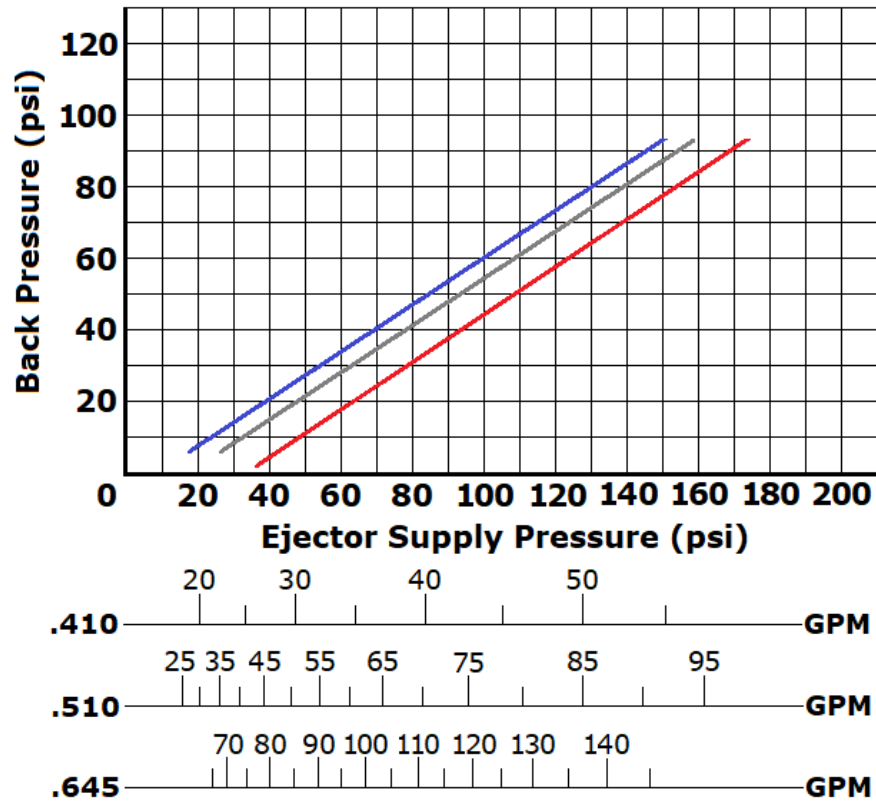
-Refer to the parts diagram when performing maintenance on the ejector assembly.

- 1) Prior to performing any maintenance on the ejector assembly it must be isolated from pressurized water sources by shutting off the booster pump (if applicable) and closing the water supply valve.

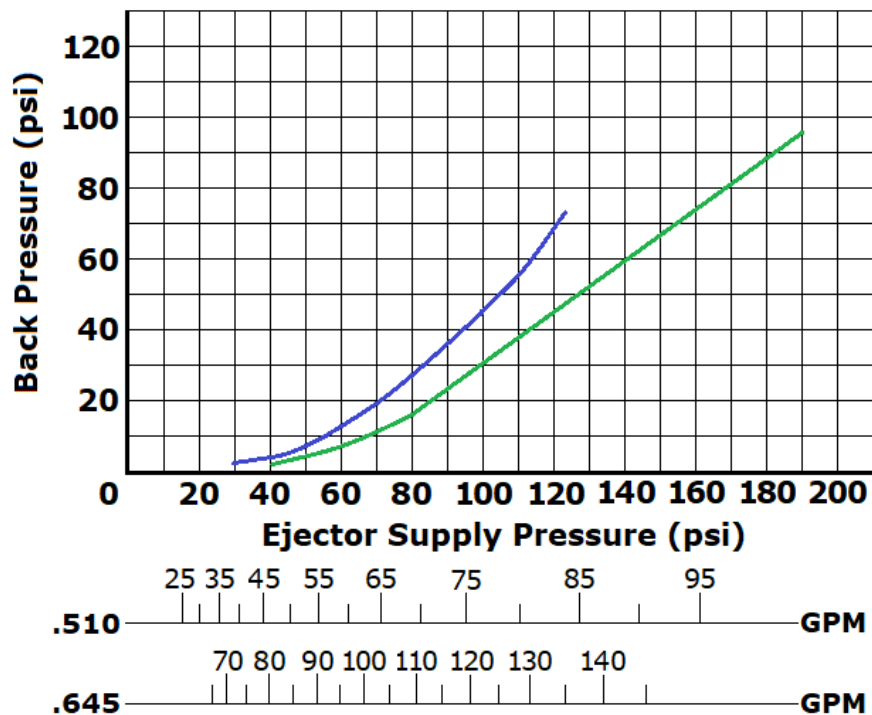
**NOTE:** The nozzle & diffuser do not generally require maintenance. Visually inspect the nozzle for any foreign objects, damage or deposits and clean if necessary.

- 2) Remove the check valve assembly from the ejector center body by unscrewing the interconnecting pipe nipple.
- 3) The check valve can be serviced by disassembling the four bolts & nuts holding the top and bottom bodies together.
- 4) The ejector check valve is comprised of a spring, diaphragm assembly and four (4) o-rings
- 5) Be careful not to lose or damage the ejector spring.
- 6) The diaphragm assembly consists of a compound diaphragm (PTFE & rubber) between two threaded parts (diaphragm bolt and diaphragm nut). These can be unscrewed from one another, allowing the diaphragm and support diaphragm to be removed.
- 7) Remove the used o-rings from the top body, bottom body and diaphragm bolt. The critical check valve o-ring (OA-CEM-214) is found installed in a groove at the center inside the ejector top body.
- 8) To Service: Clean all parts carefully. Reassemble using new diaphragm and o-rings. Apply a thin film of Fluorolube grease to each o-ring.
- 9) When installing new o-rings, take extra care to be sure the new OA-CEM-214 o-ring is installed evenly in the groove.
  
- 10) *Should you have any questions during maintenance of your ejector assembly, please contact your local service provider or Archer Instruments for support.*

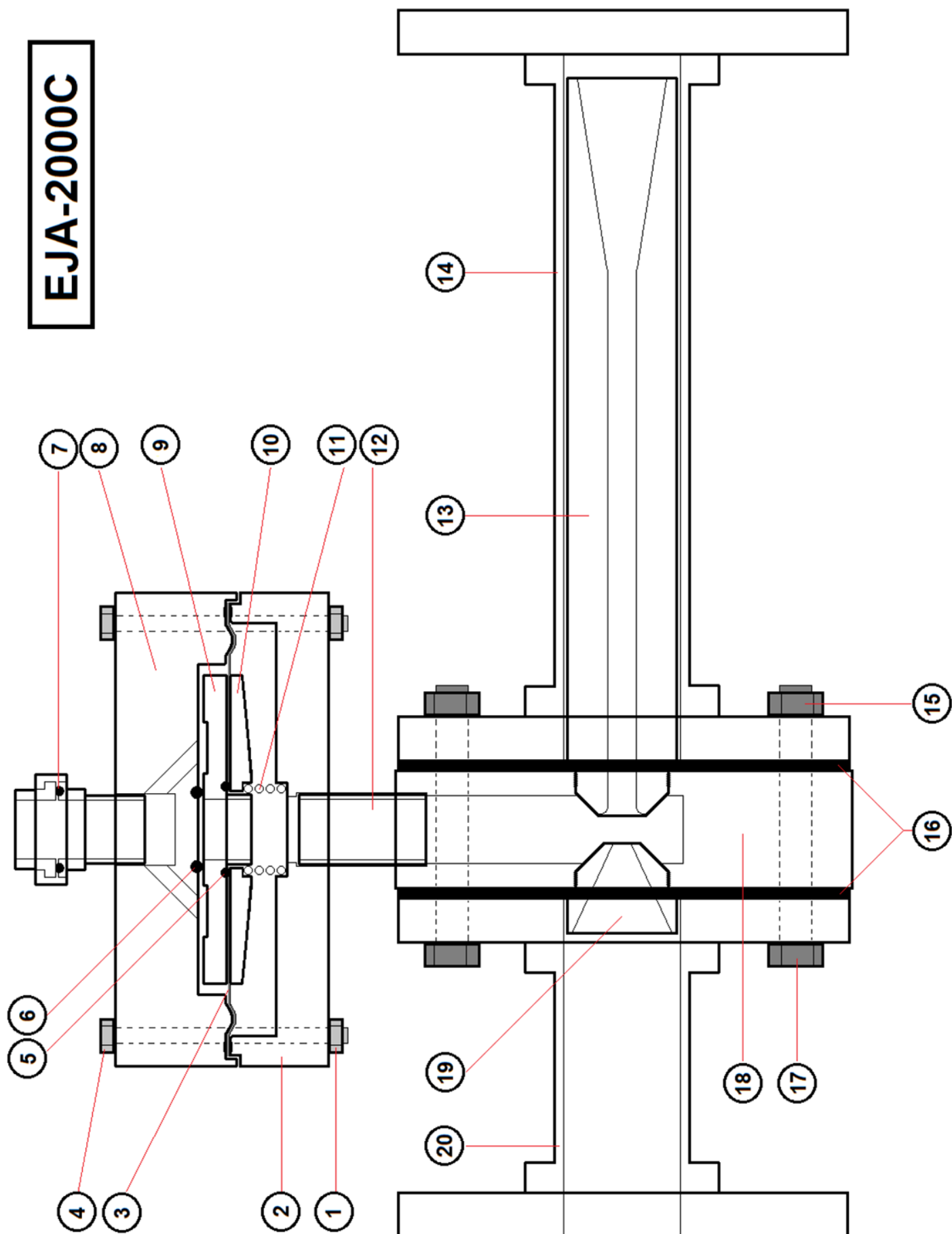
■ .410 Nozzle .605 Diffuser  
■ .510 Nozzle .735 Diffuser  
■ .645 Nozzle .950 Diffuser      **1,000 PPD (20 kg/hr)**




■ .510 Nozzle .735 Diffuser  
■ .645 Nozzle .950 Diffuser      **2,000 PPD (40 kg/hr)**



# EJA-2000C



Item#	Qty	Part#	Description	Item#	Qty	Part#	Description
1	4	NTA-104	5/16-18 Hex Nut	11	1	SPA-110	Spring
2	1	EJA-712	Check Valve Bottom Body	12	1	CSN-100	1" x 2" Sch80 PVC Nipple
3	1	CDA-102	Compound Diaphragm (rev 1)	13	1	EDA-XXX	Diffuser (three sizes offered) XXX = 605, 735 or 950
4	4	BTA-57	5/16-18 x 4-1/2" Hex Head Bolt	14	1	EJA-890	Diffuser Housing (2" PVC Flanges)
5	1	OA-VIT-126	O-Ring	15	4	NTA-230	5/8-11 Hex Nut
6	1	OA-CEM-214	O-Ring	16	2	GA-308	Flange Gasket
7	1	OA-VIT-215	O-Ring	17	4	BTA-156	5/8-11 x 4-1/2" Hex Head Bolt
8	1	EJA-711	Check Valve Top Body (w/ union)	18	1	EJA-411	Center Body
9	1	EJA-713	Diaphragm Bolt	19	1	ENA-XXX	Nozzle (three sizes offered) XXX = 410, 510 or 645
10	1	EJA-714	Diaphragm Nut	20	1	EJA-891	Nozzle Housing (2" PVC Flanges)
<b>NOTES:</b> 1) Water process connections are 2" Sch80 PVC "Van Stone" Style Flanges. <b>*Mating flanges, gaskets, bolts &amp; nuts are included</b> 2) Vacuum process connection is 1" Sch80 PVC socket union (unless specified otherwise) 3) Nozzle / Diffuser combinations are as follows: 410 / 605      510 / 735      645 / 950							
				Date: May 2024 Drawing: EJA-2000C			