



MODEL: N2 0 Metallic

Assembly, Installation and Operation Manual

ALUMINUM AND STAINLESS STEEL

QUALI-FLOTM



Explanation of Pump Nomenclature

Your Model #: **N**

(fill in from pump nameplate)

Pump Brand	Pump Size	Check Valve	Design Level	Wetted Material	Diaphragm/Check Valve	Check Valve Seat	Non-Wetted Material	Porting Options	Pump Style	Pump Options	Kit Options
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Model #: **N XX X X X X X X X X X XX**

Pump Brand

N PUMP

Pump Size

20 2"

Check Valve Type

B Ball

Design Level

1 Design Level

Wetted Material

A Aluminum
S Stainless Steel
X Unpainted Aluminum

Diaphragm/Check Valve Materials

1 Santoprene/Santoprene
2 PTFE Santoprene/PTFE
B Nitrile/Nitrile
C FKM/PTFE
I EPDM/Santoprene
G PTFE-Neoprene/PTFE
H Hytrel/Hytrel
N Neoprene/Neoprene

Check Valve Seat

A Aluminum
S Stainless Steel
T PTFE
W UHMW

Non-Wetted Material Options

A Painted Aluminum

Stainless Steel Hardware

Porting Options

N NPT Threads
B BSP (Tapered) Threads

Pump Style

S Standard

Pump Options

0 None
1 Sound Dampening Muffler

Kit Options

00. None

Your Serial #: (fill in from pump nameplate) _____

ATEX Detail

(1)  II 1G c T5
II 3/1 G c T5
II 1D c T100°C
 I M1 c
I M2 c

Models equipped with Wetted Options I, S or H, Non-Wetted Options I or Z Pump Options 6 or 7, and Kit Option 0.
Note: See ATEX Explanation of EC-Type Certificate

II 2G c T5
II 3/2 G c T5
II 2D c T100°C
Models equipped with Wetted Options A, I, S, or H, Non-Wetted Options A, I, Y, or Z, Pump Options 6 or 7, and Kit Option 0.
Note: See page 19 for ATEX Explanation of Type Examination Certificate

(2)  II 2G Ex ia c IIC T5
II 3/2 G Ex ia c IIC T5
II 2D Ex c ia 20 IP67 T100°C

 **Note:** Pumps ordered with the options listed in (1) to the left are ATEX compliant when ordered with kit option P1.

(3)  II 2G EEx m c II T5
II 3/2 2G EEx m c II T5
II 2D c IP65 T100°C

 **Note:** Pumps ordered with the options listed in (1) to the left are ATEX compliant when ordered with kit option A1, A2, A3, or A4. Compressed Air Temperature Range: Maximum Ambient Temperature to plus 50°C.
***Note:** See page 16 for Special Conditions For Safe Use.

(4)  IEC EEx m T4

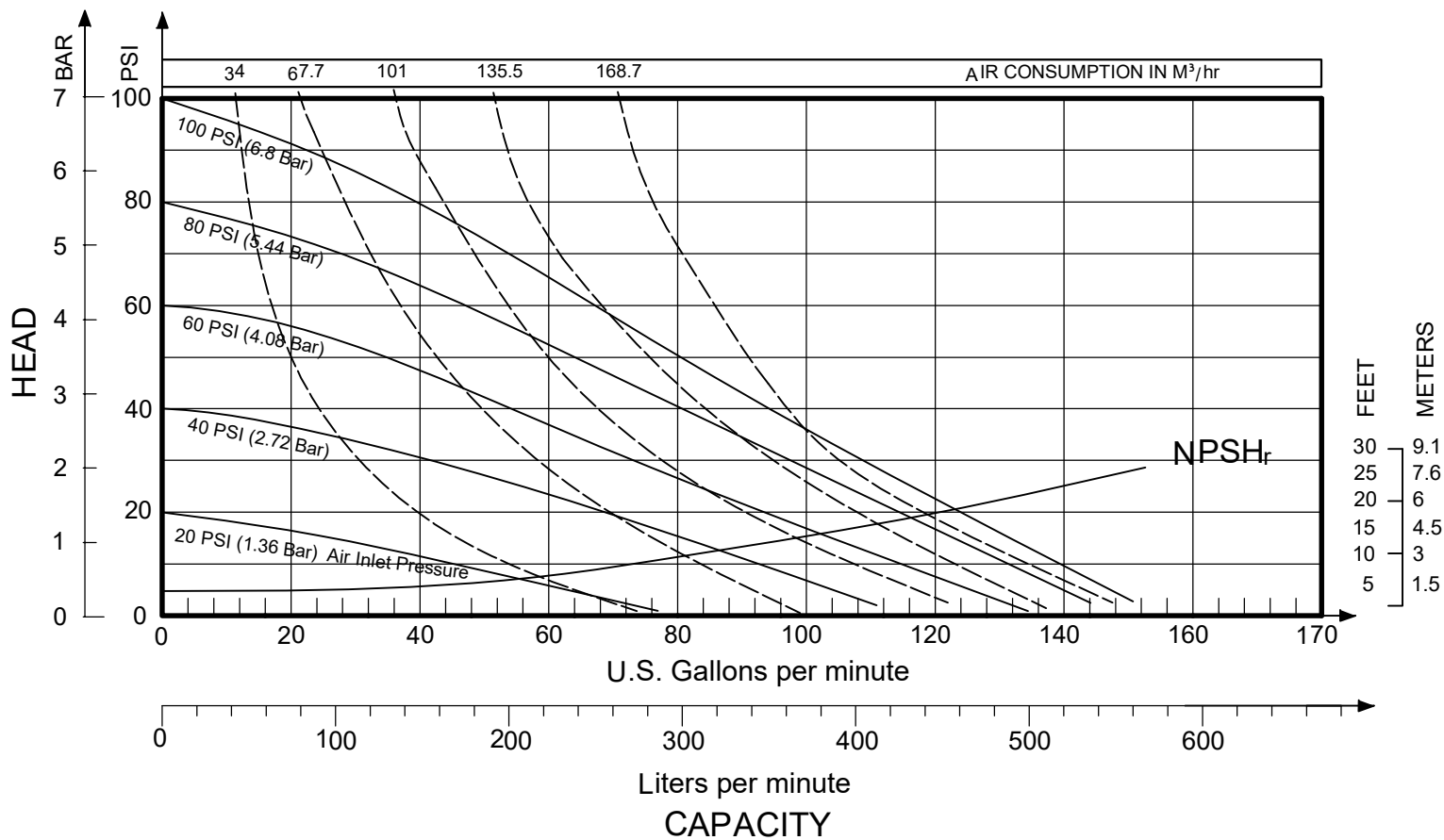


 **Note:** Pump models equipped with these explosion-proof solenoid kit options E1, E3, E5, E7, E8 or E9, are certified and approved by the above agencies. They are NOT ATEX compliant.

Performance

N20 METALLIC

MODEL N20 Metallic Performance Curve



SUCTION/DISCHARGE PORT SIZE

- 2" NPT (internal)
- 2" BSP Tapered (internal)

HEADS UP TO

- 125 psi or 289 ft. of water
(8.6 Kg/cm² or 86 meters)

CAPACITY

- 0 to 151 gallons per minute
(0 to 571 liters per minute)

DISPLACEMENT/STROKE

- .42 Gallon / 1.59 liter

AIR DISTRIBUTION VALVE

- No-lube, no-stall design

MAXIMUM OPERATING PRESSURE

- 125 psi (8.6 bar)

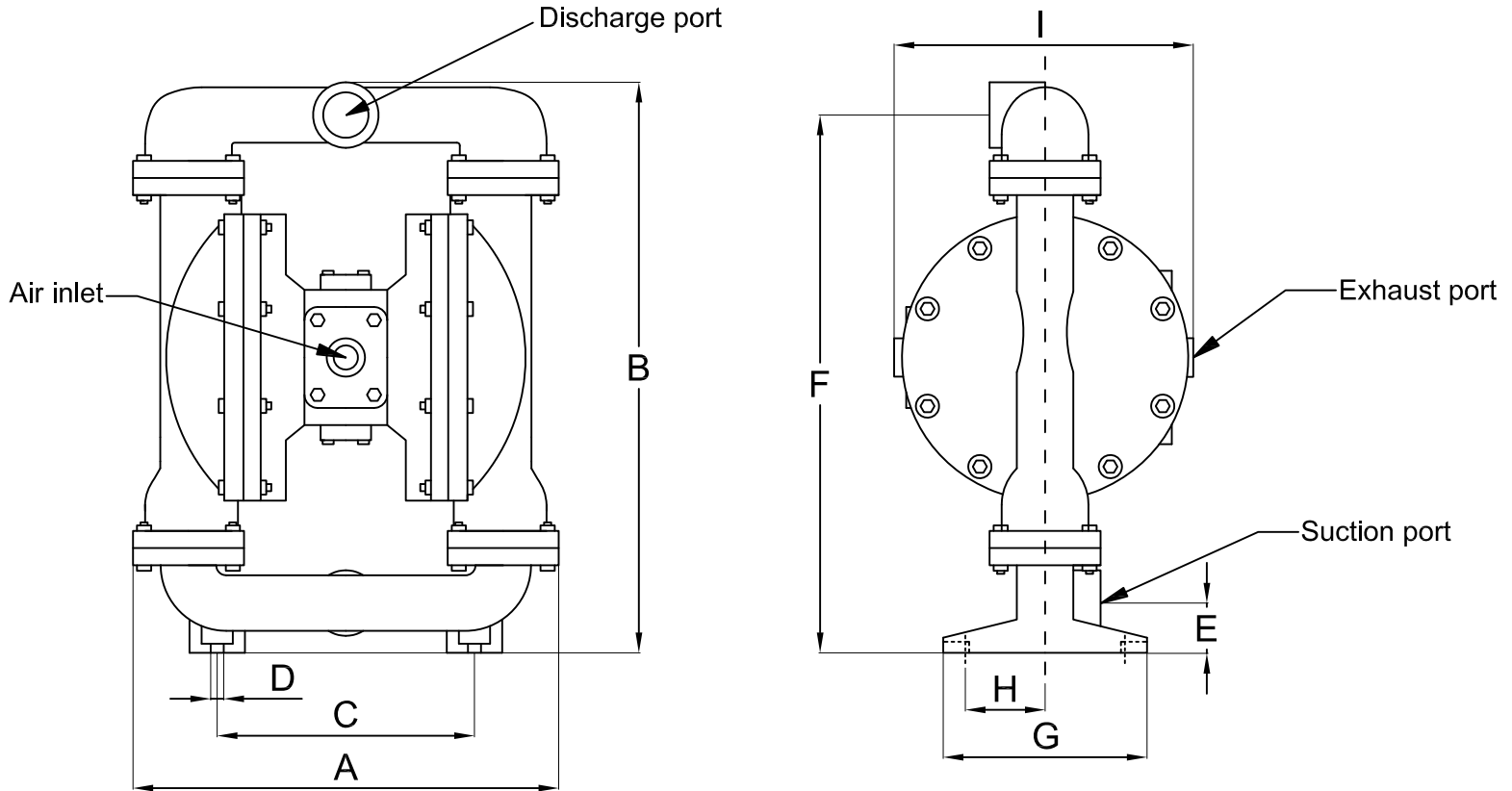
SOLIDS-HANDLING

- Up to .25 in. (6mm)

SHIPPING WEIGHT

- Aluminum 70.5 lbs. (32kg)
- Stainless Steel 123.5 lbs. (56kg)

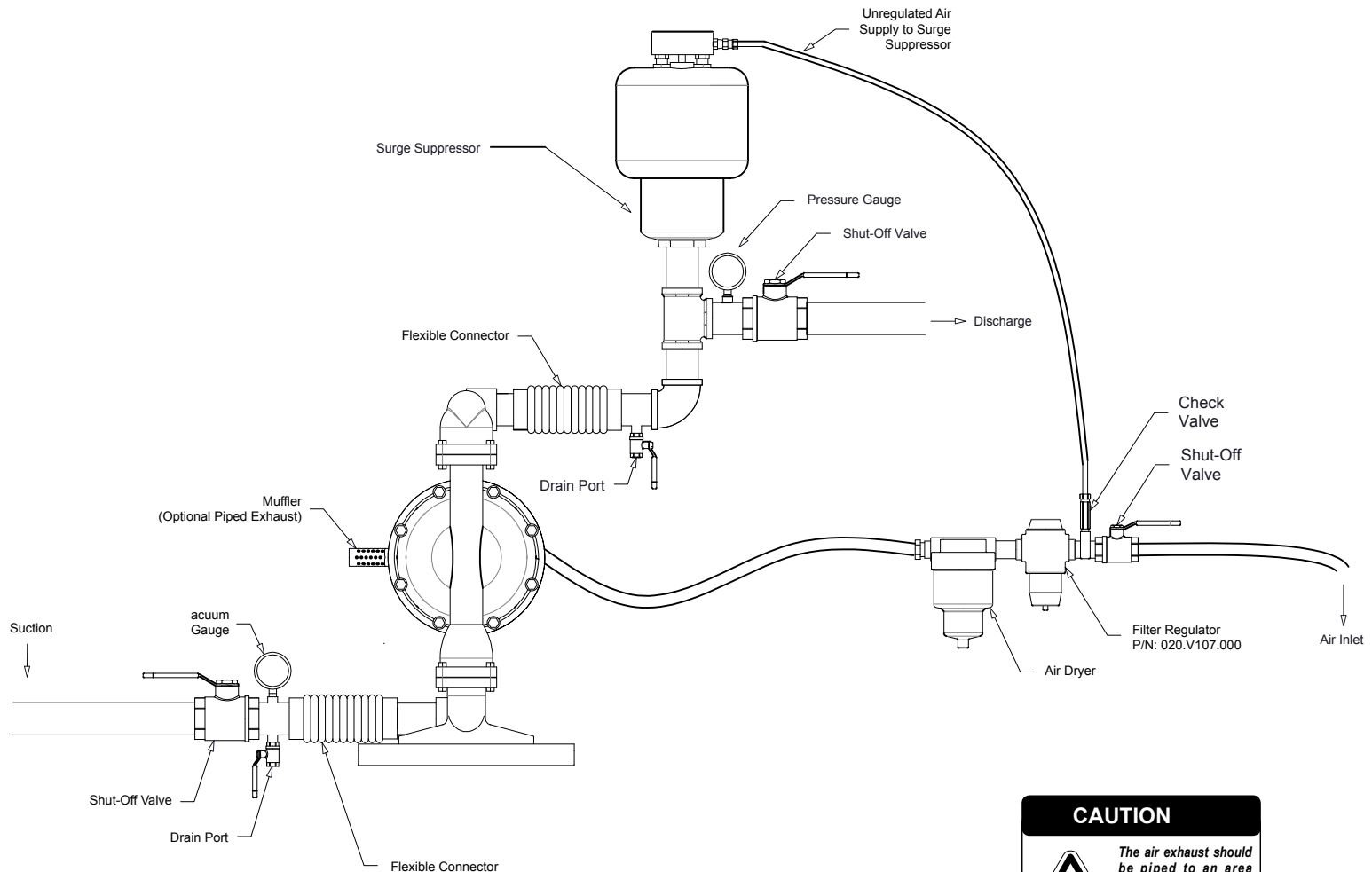
Dimensional Drawings for N20 Metallic Pumps



Dimension Tolerance : ± 3 mm or ± 0.125 "

Pump Model	Port Size	Air Inlet Size	Exhaust Port Size	A	B	C	D	E	F	G	H	I mm/inches		Weight (kg)
				mm inches	mm inches	mm inches	mm inches	mm inches	mm inches	mm inches	mm inches	standard muffler	metal muffler	
N20M	2"NPT/BSP	3/4"NPT	1"NPT	428 16.9"	669 26.3"	256 10.1"	13 0.5"	51 2"	631 24.8"	254 10"	114 4.5"	320 12.6"	373 14.7"	AL:32 Cl:61 SS:56

Recommended Installation Guide



Installation And Start-Up

Locate the pump as close to the product being pumped as possible. Keep the suction line length and number of fittings to a minimum. Do not reduce the suction line diameter.

Air Supply

Connect the pump air inlet to an air supply with sufficient capacity and pressure to achieve desired performance. A pressure regulating valve should be installed to insure air supply pressure does not exceed recommended limits.

Air Valve Lubrication

The air distribution system is designed to operate **WITHOUT** lubrication. This is the standard mode of operation. If lubrication is desired, install an air line lubricator set to deliver one drop of SAE 10 non-detergent oil for every 20 SCFM (9.4 liters/sec.) of air the pump consumes. Consult the Performance Curve to determine air consumption.

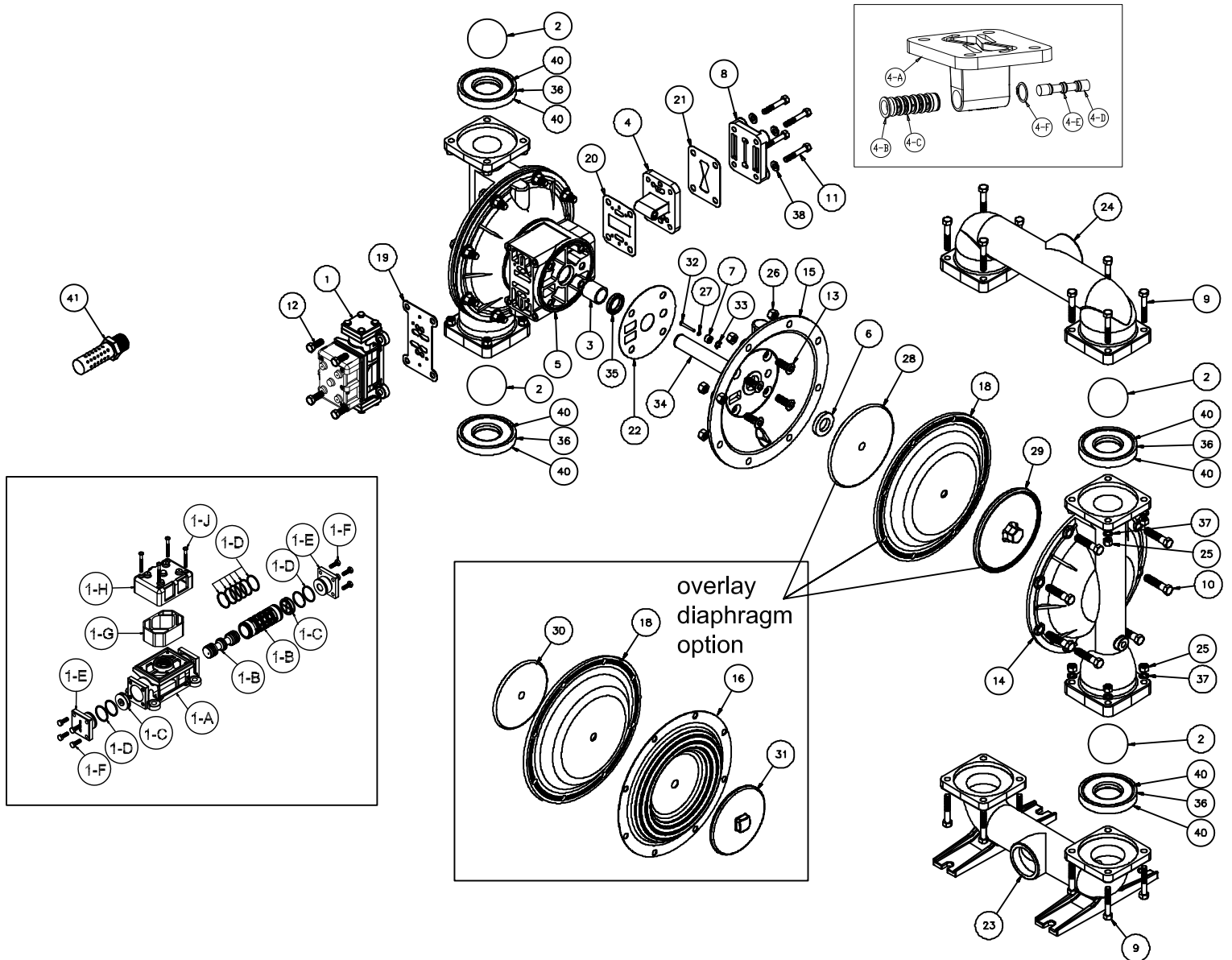
Air Line Moisture

Water in the compressed air supply may cause icing or freezing of the exhaust air, causing the pump to cycle erratically or stop operating. Water in the air supply can be reduced by using a point-of-use air dryer.

Air Inlet And Priming

To start the pump, slightly open the air shut-off valve. After the pump primes, the air valve can be opened to increase air flow as desired. If opening the valve increases cycling rate, but does not increase the rate of flow, cavitation has occurred. The valve should be closed slightly to obtain the most efficient air flow to pump flow ratio.

Dimensional Drawings for N20 Metallic Pumps



N20 Metallic Pump Parts List

	Item	Part Number	Description	Qty	Mtl
	1	N031-173-000	Air Valve Assembly	1	\
	1-A	N095-109-157	Body,Air Valve	1	Aluminum
	1-B	N031-139-000	Sleeve and Spool Set	1	\
	1-C	N132-029-357	Bumper	2	Ployurethane
	1-D	N560-020-360	O.Ring	10	Nitrile
	1-E	N165-127-157	Cap,End	2	Aluminum
	1-F	N170-032-330	Hex Head Capscrew,1/4.20x0.75	8	Zinc Plated Steel
	1-G	N530-028-550	Muffler	1	PE
	1-H	N165-096-551	Muffler Cap	1	Glass Filled PP
	1-J	N706-026-330	Machine Screw	4	Zinc Plated Steel
	2	N050-017-354	Ball,Check	4	Santoprene
	2	N050-017-360	Ball,Check	4	Nitrile
	2	N050-017-364	Ball,Check	4	EPDM
	2	N050-017-365	Ball,Check	4	Neoprene
	2	N050-018-600	Ball,Check	4	PTFE
	3	N070-006-170	Bushing	2	Bronze
	4	N095-110-000	Pilot Valve Assembly	1	\
	4-A	N095-095-558	Valve Body	1	Conductive HDPE
	4-B	N755-052-000	Sleeve(With O.Rings)	1	\
	4-C	N560-033-379	O.Ring(Sleeve)	6	Conductive Nitrile
	4-D	N775-055-000	Spool(With O.Rings)	1	\
	4-E	N560-023-379	O.Ring(Spool)	3	Conductive Nitrile
	4-F	N675-037-080	Retaining Ring	1	Carbon Steel
	5	N114-024-157	Intermediate	1	Aluminum
	6	N132-035-360	Bumper,Diaphragm	2	Nitrile
	7	N135-034-506	Bushing,Actuator	2	Delrin
	8	N165-116-157	Cap,Air Inlet	1	Aluminum
	9	N170-052-330	Capscrew,Hex Hd 3/8.16x2.25	16	Zinc Plated Steel
	10	N170-060-330	Capscrew,Hex Hd 7/16.14x2.00	16	Zinc Plated Steel
	11	N170-069-330	Capscrew,Hex Hd 5/16.18x1.75	4	Zinc Plated Steel
	12	N170-006-330	Capscrew,Hex Hd 3/8.16x1.00	4	Zinc Plated Steel
	13	N171-059-330	Capscrew,Soc Hd 7/16.14x1.25	8	Zinc Plated Steel
	14	N196-167-157	Chamber,Outer	2	Aluminum
	14	N196-167-110	Chamber,Outer	2	Stainless Steel
	15	N196-168-157	Chamber,Inner	2	Aluminum
	15	N196-168-110	Chamber,Inner	2	Stainless Steel
	16	N286-020-604	Diaphragm,Overlay	2	PTFE
	18	N286-007-354	Diaphragm	2	Santoprene
	18	N286-007-360	Diaphragm	2	Nitrile
	18	N286-007-363	Diaphragm	2	FKM
	18	N286-007-364	Diaphragm	2	EPDM
	18	N286-007-365	Diaphragm	2	Neoprene
	19	N360-093-360	Gasket,Air Valve	1	Nitrile
	20	N360-114-360	Gasket,Pilot Valve	1	Nitrile

	21	N360-104-379	Gasket,Air Inlet	1	Conductive Nitrile
	22	N360-105-360	Gasket,Inner Chamber	2	Nitrile
	23	N518-145-110	Manifold,Suction	1	Stainless Steel
	23	N518-145-110E	Manifold,Suction,BSP	1	Stainless Steel
	23	N518-145-156	Manifold,Suction	1	Aluminum
	23	N518-145-156E	Manifold,Suction,BSP	1	Aluminum
	24	N518-146-110	Manifold,Discharge	1	Stainless Steel
	24	N518-146-110E	Manifold,Discharge,BSP	1	Stainless Steel
	24	N518-146-156	Manifold,Discharge	1	Aluminum
	24	N518-146-156E	Manifold,Discharge,BSP	1	Aluminum
	25	N545-005-330	Nut,Hex 3/8.16	16	Zinc Plated Steel
	26	N545-007-330	Nut,Hex 7/16.14	16	Zinc Plated Steel
	27	N560-001-379	O.Ring	2	Conductive Nitrile
	28	N612-192-157	Plate,Inner Diaphragm	2	Aluminum
	29	N612-194-157	Plate,Outer Diaphragm Assembly	2	Aluminum
	29	N612-194-110	Plate,Outer Diaphragm Assembly	2	Stainless Steel
	30	N612-195-157	Plate,Inner Diaphragm(use with 286.020.604)	2	Aluminum
				2	
	31	N612-097-110	Plate,Outer Diaphragm Assembly(use	2	Stainless Steel
	31	N612-039-157	Plate,Outer Diaphragm Assembly(use	2	Aluminum
	32	N620-020-115	Plunger,Actuator	2	Stainless Steel
	33	N675-042-115	Ring,Retainer	2	Stainless Steel
	34	N685-058-120	Rod,Diaphragm	1	Stainless Steel
	35	N720-004-360	U.Cup,Rod	2	Nitrile
	36	N722-040-110	Seat,Check Ball	4	Stainless Steel
	36	N722-040-360	Seat,Check Ball	4	Nitrile
	36	N722-040-363	Seat,Check Ball	4	FKM
	36	N722-040-364	Seat,Check Ball	4	EPDM
	36	N722-040-365	Seat,Check Ball	4	Neoprene
	36	N722-040-550	Seat,Check Ball	4	PE
	36	N722-040-600	Seat,Check Ball	4	PTFE
	37	N900-005-330	Washer,Lock	16	Zinc Plated Steel
	38	N901-038-330	Washer,Flat 5/16	4	Zinc Plated Steel
	40	N720-060-608	Seal(O-Ring)(See item 36)	8	Conductive PTFE
	41	N530-033-000	Metal Muffler	1	\