OPERATOR'S MANUAL

PX07P-XXX-XXX-AXXX

INCLUDING: OPERATION, INSTALLATION AND MAINTENANCE

RELEASED REVISED: (REV: M)

2-16-07 2-16-18

3/4" DIAPHRAGM PUMP

1:1 RATIO (NON-METALLIC)



READ THIS MANUAL CAREFULLY BEFORE INSTALLING, OPERATING OR SERVICING THIS EQUIPMENT.

It is the responsibility of the employer to place this information in the hands of the operator. Keep for future reference.

SERVICE KITS

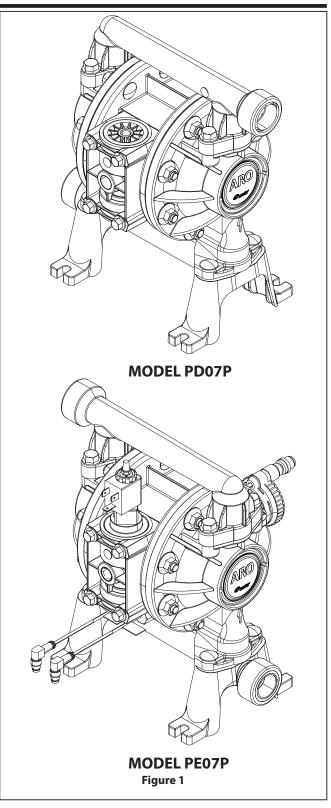
Refer to Model Description Chart to match the pump material options.

637427-XX for fluid section repair (see page 5). **637428** for air section repair (see page 7).

PUMP DATA

Dimensional Data..... see page 9 **Noise Level** @ 70 psig, 60 cpm 75.0 dB(A) $^{\odot}$

 $[\]textcircled{1}$ The pump sound pressure levels published here have been updated to an Equivalent Continuous Sound Level (LA_{eq}) to meet the intent of ANSI S1.13-1971, CAGI-PNEUROP S5.1 using four microphone locations.





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MODEL DESCRIPTION CHART

DO7 - Stectronic Interface enter Body Material - Polypropylene luid Connection - 3/4 - 1 4 MPITF - 2 - Rp 3/4 (3/4 - 1 4 BP), parallel) luid Caps & Manifold Material - Polypropylene ardware Material - Stainless Steel ext Material - Stainless Steel ext Material - Stainless Steel ext Material - Stainless Material - Stainless Material - Stainless Material - Stainless Material - Santoprene - Hybrid - Hybrid - Hybrid - Hybrid - Hybrid - PITF - Vitron - Witron - Revision - R	xample: PX07 P	X P S	- X X	X - A	X X
PEDOT - Blectronic Interface Center Body Material P. Polypropylene Fluid Connection A 34A - 14 NPTF - 2 B - Rp 3/4 (3/4 - 14 SSP, parallel) Pluid Caps & Manifold Material P. Polypropylene Hardware Material S- Stainless Steel Seat Material A- Santoprene C - Hytrel T - PTE V - Vitton Diaphragm Material A- Santoprene C - Hytrel T - PTE V - Vitton Diaphragm Material A- Santoprene C - Hytrel T - PTE V - Vitton Siaphragm Material A- Santoprene C - Hytrel C - Hytrel C - Hory ell C - Hory ell C - Hory ell C - Hytrel C - Hytrel C - Hory ell C - Hory ell C - Hytrel C - Hory ell C - Hytrel C - Hory ell C - Hory ell C - Hytrel C - Hory ell C - Hytrel C -	Model Series				
Center Body Material P. Polypropylene Huld Connection A. 3/A - 14 NPTF - 2 B. Rg 34 (3/A - 14 SP. parallel) Fluid Caps & Manifold Material P. Polypropylene Hardware Material S- Stainless Steel Seat Material A. Santoprene C. Hytrel C. Hy	•				
P. Polypropylene Pfluid Connection A 3/4 - 14 NPT - 2 B - Rp 3/4 (3/4 - 14 SSP, parallel) Pr. Polypropylene Hardware Material P- Polypropylene Hardware Material P- Polypropylene Seat Material A - Santoprene C - Hytrel I - PIFE V - Vitton Diaphragm Material A - Santoprene C - Hytrel I - PIFE V - Vitton Diaphragm Material A - Santoprene C - Hytrel I - Long Life PTE I - PIFE V - Vitton Diaphragm Material A - Santoprene C - Hytrel C - Hytre					
Fluid Connection A. 3/4 - 14 NPTF - 2 B. Rp 3/4 (3/4 - 14 SP, parallel) Fluid Caps & Manifold Material P. Polypropylene Hardware Material Seat Material A. Santoprene C. Hytrel C. Hytrel C. Hytrel I. PIFE V. Viton Disphragm Material A. Santoprene C. Hytrel I. Long Life PIFE I. Long Life PIFE I. Long Life PIFE I. Long Life PIFE Specialty Code 1 (Blank if no Speciality Code) A. Solenoid 12 VAC, 110 VAC AND 60 VDC B. Solenoid 12 VAC, 110 VAC AND 12 VDC Specialty Code 1 (Blank if no Speciality Code) C. Solenoid 2 VDC, 24 VAC, AND 12 VDC D. Solenoid 2 VDC, 24 VAC, AND 12 VDC D. Solenoid 2 VDC, 24 VDC, 48 VAC AND 14 VAC Solenoid 12 VDC, 24 VDC, 48 VAC AND 14 VDC D. Solenoid 2 VDC, 26 VDC, 26 VDC Solenoid 2 VDC, 27 VDC, 27 VDC Solenoid 2 VDC, 27 VDC, 27 VDC Solenoid 2 VDC, 28 VDC, 28 VDC Solenoid 2 VDC, 28 VDC, 28 VDC Solenoid 20 VDC, 28 VDC, 28 VDC Solenoid 20 VDC, 28 VDC, 28 VDC Solenoid 20 VDC, 28 VDC, 28 VDC Solenoid 29 VDC Solenoid 29 VDC, 28 VDC Solenoid 29 VDC Solenoid 29 VDC Solenoid 29 VDC Solenoid 29 VDC Solenoid 2	Center Body Material				
A. 3/4-14 NPTF-2 B- Rg 3/4 (3/4-14 BSP, parallel) Fluid Caps & Manifold Material P- Polypropylene Mardware Material S- Stainless Steel Seat Material S- Stainless Steel Seat Material P- Polypropylene Ball Material A- Santoprene C- Hytrel T- PFTE V- Viton Diaphragm Material A- Santoprene C- Hytrel T- PFTE V- Viton Diaphragm Material A- Santoprene Hydrolf FTE T- PFTE T- PFT	P - Polypropylene				
Seat Material P. Polypropylene Ball Material A. Santoprene C. Hytrel T. PTFE V. Viton Diaphragm Material A. Santoprene C. Hytrel L. Long Life PTFE L. Long Life PTFE V. Viton Revision Specialty Code 1 (Blank if no Speciality Code) A. Selnoid 12 VDC, 24 VAC, AND 22 VAC C. Solenoid 12 VDC, 24 VAC, AND 22 VAC C. Solenoid 12 VDC, 24 VAC, AND 44 VAC E. Solenoid 12 VDC, AEV, CEC G. Solenoid 24 VDC, KEC, CEC G. Solenoid 24 VDC, KEC, CEC G. Solenoid 12 VDC, AEV, CEC G. Solenoid 24 VDC, MEC, CEC G. Solenoid 24 VDC, MEC, CEC G. Solenoid 24 VDC, MEC, CEC G. Solenoid 25 VDC, MEC, CEC G. Solenoid 24 VDC, MEC, CEC G. Solenoid 12 VDC, AEV, EECK J. Solenoid 12 VDC, AEV, EECK J. Solenoid 25 VDC, MEC, CEC G. Solenoid 12 VDC, AEV, EECK J. Solenoid 25 VDC, MEC, CEC G. Solenoid 12 VDC, AEV, EECK J. Solenoid 25 VDC, MEC, CEC G. Solenoid 10 VDC, MEC, MEC, MEC, MEC, MEC, MEC, MEC, ME	Fluid Connection]			
Fluid Caps & Manifold Material P. Polypropylene Hardware Material S- Stainless Steel Seat Material P. Polypropylene Ball Material A. Santoprene C. Hytrel V. Viton Diaphragm Material A. Santoprene C. Hytrel V. Viton Diaphragm Material A. Santoprene C. Hytrel V. Viton Diaphragm Material A. Santoprene C. Hytrel V. Viton Specialty Code 1 (Blank if no Speciality Code) A. Solenoid 120 WAC,110 VMC AND 60 VDC Specialty Code 1 (Blank if no Speciality Code) A. Solenoid 120 VMC,110 VMC AND 60 VDC Solenoid 220 VMC, 230 VMC AND 120 VMC C. Solenoid 240 VMC, 220 VMC AND 120 VMC C. Solenoid 240 VMC, 240 VMC AND 44 VMC C. Solenoid 240 VMC, 48C VMC AND 44 VMC C. Solenoid 240 VMC, 48C VMC, 48C VMC Solenoid 240 VMC, 48C VMC, 48C VMC Solenoid 240 VMC AND 40 VMC AND 40 VMC Solenoid 120 VMC, 140 VMC AND 40 VMC Solenoid 140 KMC AND 40 VMC Solenoid 140 KM	A - 3/4 - 14 NPTF - 2				
P- Polypropylene Hardware Material S- Stainless Steel Seat Material P- Polypropylene Ball Material A- Santoprene C- Hytrel T- PTFE V- Vitton Diaphragm Material A- Santoprene C- Hytrel C- Hytrel L- Long life PTFE T- PTFE V- Vitton Revision Revision Revision A- Revision Specialty Code I (Blank if no Speciality Code) A- Solenoid 120 VAC, 110 VAC AND 60 VDC B- Solenoid 120 VAC, 210 VAC AND 120 VDC C- Solenoid 240 VAC, 240 VAC AND 120 VDC D- Solenoid 240 VAC, 240 VAC AND 120 VDC D- Solenoid 240 VDC, 487 VDC AREV / IEEEX F- Solenoid 120 VDC, 120 VAC AND 440 VAC S- Solenoid 240 VDC, 487 V/ IEEEX F- Solenoid 120 VDC, 120 VAC AND 120 VDC D- Solenoid 240 VDC, 487 V/ IEEEX F- Solenoid 120 VAC, 110 VAC AND 120 VDC D- Solenoid 240 VDC, 487 V/ IEEEX F- Solenoid 120 VAC AND 120 VDC Solenoid 240 VDC AREV / IEEEX F- Solenoid 120 VAC AREV / IEEEX F- Solenoid 120 VAC AND 120 VDC Solenoid 240 VDC AREV / IEEEX F- Solenoid 120 VAC AND 120 VDC Solenoid 240 VDC AREV / IEEEX F- Solenoid 120 VAC AND 120 VDC Solenoid 240 VDC AREV / IEEEX F- Solenoid 120 VAC AND 120 VDC Solenoid 240 VDC AREV / IEEEX F- Solenoid 120 VAC AND 120 VDC Solenoid 240 VDC AREV / IEEEX F- Solenoid 120 VAC AND 120 VDC Solenoid 240 VDC AREV / IEEEX F- Solenoid 120 VAC AND 120 VDC Solenoid 240 VDC AREV / IEEEX F- Solenoid 120 VAC AND 120 VDC Solenoid 240 VDC AREV / IEEEX Solenoid 120 VAC AND 120 VDC Solenoid 240 VDC AREV / IEEEX / IEEC	B - Rp 3/4 (3/4 - 14 BSP, parallel)				
Seat Material P. Polypropylene Ball Material A. Santoprene C. Hytrel T. PFFE V. Viton Diaphragm Material A. Santoprene C. Hytrel L. Long Life PTFE L. Long Life PTFE Diaphragm Material A. Santoprene C. Hytrel L. Long Life PTFE Sentoprene V. Viton A. Revision Specialty Code 1 (Blank if no Speciality Code) A. Solenoid 12 VDC AC, 110 VAC, AnD 60 VDC Solenoid 12 VDC, 24 VAC, AND 22 VAC C. Solenoid 12 VDC, 24 VAC, AND 24 VAC C. Solenoid 12 VDC, AVC, CEC G. Solenoid 12 VDC, AVC, AVC, AVC, AVC, AVC, AVC, AVC, AV	Fluid Caps & Manifold Material				
S-Stainless Steel Seat Material A - Santoprene C - Hytrel T - PTE V - Vitron Diaphragm Material A - Santoprene C - Hytrel L - Long life PTE T - PTE Vitron Revision Sepcialty Code 1 (Blank if no Speciality Code) A - Solenoid 120 VAC, 110 VAC AND 60 VDC B - Solenoid 120 VAC, 202 VAC AND 22 VAC C - Solenoid 24 VDC, 48 VAC AND 24 VAC E - Solenoid 24 VDC, 48 VAC AND 44 VAC E - Solenoid 24 VDC, 48 VAC AND 40 VDC D - Solenoid 24 VDC, KEC/CEC G - Solenoid 120 VAC, 110 VAC AND 60 VDC Solenoid 24 VDC KEC/CEC G - Solenoid 27 VDC AVE, 110 VAC AND 60 VDC D - Solenoid 27 VDC AVE, 110 VAC AND 60 VDC D - Solenoid 27 VDC AVE, 110 VAC AND 60 VDC D - Solenoid 27 VDC AVE, 110 VAC AND 60 VDC D - Solenoid 27 VDC AVE, 110 VAC AND 60 VDC D - Solenoid 28 VDC AVE, 110 VAC AND 60 VDC D - Solenoid 29 VDC AVE, 110 VAC AND 60 VDC D - Solenoid 20 VAC, 202 VAC AND 100 VDC D - Solenoid 10 VDC AVE, 110 VAC AND 60 VDC D - Solenoid 10 VDC AVE, 110 VAC AND 60 VDC D - Solenoid 10 VDC AVE, 110 VAC AND 60 VDC D - Solenoid 10 VDC AVE, 110 VAC AND 60 VDC D - Solenoid 10 VDC AVE, 110 VAC AND 60 VDC D - Solenoid 10 VDC AVE, 110 VAC AND 60 VDC D - Solenoid 10 VDC AVE, 110 VAC AND 60 VDC D - Solenoid 10 VDC AVE, 110 VAC AND 60 VDC D - Solenoid 10 VDC AVE, 110 VAC AND 60 VDC D - Solenoid 10 VDC AVE, 110	P - Polypropylene				
Seat Material P. Polypropylene Ball Material A. Santoprene C. Hytrel T. PTEE V. Vitton Diaphragm Material A. Santoprene C. Hytrel L. Long Life PTE L. Long Life PTE T. PTEE/Santoprene V. Vitton Revision Specialty Code 1 (Blank if no Speciality Code) A. Solenoid 120 VAC,110 VAC AND 60 VDC B. Solenoid 12 VDC, 24 VAC AND 22 VAC C. Solenoid 220 VAC, 220 VAC AND 120 VDC D. Solenoid 24 VDC, AEV C,	Hardware Material				
P- Polypropylene Ball Material A - Santoprene C - Hytrel T - PTFE V - Viton Dilaphragm Material A - Santoprene C - Hytrel	S- Stainless Steel				
Ball Material A - Santoprene C - Hytrel T - PTE V - Viton Diaphragm Material A - Santoprene C - Hytrel L - Long Life PTE L - Long Life PTE L - Long Life PTE Sevision A- Revision Specialty Code 1 (Blank if no Speciality Code) A- Solenoid 12 VDC, 24 VAC AND 60 VDC B Solenoid 12 VDC, 24 VAC AND 22 VAC C - Solenoid 12 VDC, 24 VAC AND 22 VAC C - Solenoid 12 VDC, 24 VAC AND 44 VAC E - Solenoid 12 VDC, 24 VAC AND 44 VAC E - Solenoid 12 VDC NEC / CEC F - Solenoid 12 VDC NEC / CEC F - Solenoid 24 VDC, 48 VDC ARD 10 VDC D - Solenoid 24 VDC, 48 VDC ARD 10 VDC D - Solenoid 25 VDC NEC / CEC F - Solenoid 27 VDC NEC / CEC F - Solenoid 27 VDC NEC / CEC Solenoid 10 VDC ATEX / IECEX D - Solenoid 28 VDC AREX / IECEX D - Solenoid 29 VDC AREX / IECEX D - Solenoid 29 VDC AREX / IECEX Solenoid 20 VDC AREX / IECEX D - Solenoid 20 VDC AREX / IECEX D - Forted Motor (No major valve) Solenoid with no Coil P - Ported Motor (No major valve) S - Solenoid 25 VDC AREX / IECEX / IECE / IECE Leak Detection A TEX / IECEX / IECE	Seat Material				
A - Santoprene C - Hytrel T - PTFE V - Viton Diaphragm Material A - Santoprene C - Hytrel L - Long Life PTFE L - Long Life PTFE C - Hytrel L - Long Life PTFE Santoprene V - Viton Revision A - Revision Specialty Code 1 (Blank if no Speciality Code) A - Solenoid 120 VAC, 110 VAC AND 60 VDC B - Solenoid 120 VAC, 110 VAC AND 60 VDC D - Solenoid 120 VAC, 20 VAC AND 120 VDC D - Solenoid 24 VDC, 48 VAC AND 120 VDC D - Solenoid 24 VDC, 48 VAC AND 120 VDC D - Solenoid 24 VDC, 48 VAC AND 120 VDC D - Solenoid 21 VDC NEC / CEC G - Solenoid 12 VDC NEC / CEC F - Solenoid 12 VDC ATEX / IECEX H - Solenoid 12 VDC ATEX / IECEX J - Solenoid 12 VAC ATEX / IECEX D - Solenoid 12 VAC ATEX / IECEX Solenoid 24 VDC ATEX / IECEX Solenoid 25 VAC ATEX / IECEX Solenoid 25 VAC ATEX / IECEX Solenoid 26 VAC ATEX / IECEX Solenoid 27 VAC ATEX / IECEX Solenoid 28 VAC ATEX / IECEX L Solenoid 28 VAC ATEX / IECEX Solenoid 28 VAC ATEX / IECEX L Solenoid 28 VAC ATEX / IECEX / I					
C - Hytrel T - PTFE V - Viton Diaphragm Material A - Santoprene C - Hytrel L - Long Life PTFE T - PTFE / Santoprene V - Viton Revision Revision Specialty Code 1 (Blank if no Speciality Code) A - Revision Specialty Code 1 (Blank if no Speciality Code) B - Solenoid 12 VDC, 24 VAC AND 20 VAC C - Solenoid 12 VDC, 24 VAC AND 20 VAC C - Solenoid 12 VDC NEC / CEC Solenoid 12 VDC NEC / CEC G - Solenoid 12 VDC NEC / CEC G - Solenoid 12 VDC ATEX / IECEX H - Solenoid 12 VDC ATEX / IECEX H - Solenoid 12 VDC NEC / CEC C - Solenoid 20 VAC NEC / CEC C - S	Ball Material				
T- PTFE V- Viton Diaphragm Material A - Santoprene C - Hytrel L - Long Life PTFE T - PTFE / Santoprene V- Viton Revision Specialty Code 1 (Blank if no Speciality Code) A- Revision Specialty Code 1 (Blank if no Speciality Code) B- Solenoid 12 VDC, 24 VAC AND 20 VDC B- Solenoid 12 VDC, 24 VAC AND 20 VDC C Solenoid 24 VDC ARD AV AND 20 VDC D- Solenoid 24 VDC, A8V AC AND 44 VAC E- Solenoid 12 VDC, VEC / CEC G- Solenoid 12 VDC ATEX / IECEX J- Solenoid 12 VDC ATEX / IECEX J- Solenoid 12 VDC ATEX / IECEX J- Solenoid 24 VDC ATEX / IECEX J- Solenoid 24 VDC ATEX / IECEX Solenoid 25 VDC ATEX / IECEX Solenoid 25 VDC ATEX / IECEX Solenoid 25 VDC ATEX / IECEX Solenoid 26 VDC ATEX / IECEX Solenoid 27 VDC ATEX / IECEX Solenoid 27 VDC ATEX / IECEX Solenoid 28 VDC ATEX / IECEX Solenoid 28 VDC ATEX / IECEX Solenoid 27 VDC ATEX / IECEX Solenoid 28 VDC ATEX / IECEX Solenoid 28 VDC ATEX / IECEX Solenoid 27 VDC ATEX / IECEX Solenoid 28 VDC ATEX / IECEX / NEC / CEC Leak Detection ATEX / IECEX / NEC / CEC E- End of Stroke Heedback + Leak Detection ATEX / IECEX / NEC / CEC Solenoid 28 VDC ATEX / IECEX / NEC / CEC Solenoid 28 VDC ATEX / IECEX / NEC / CEC Solenoid 28 VDC ATEX / IECEX / NEC / CEC Solenoid 28 VDC ATEX / IECEX / NEC / CEC Solenoid 28 VDC ATEX / IECEX / NEC / CEC Solenoid 28 VDC ATEX / IECEX / NEC / CEC Solenoid 28 VDC ATEX / IECEX / NEC / CEC Solenoid 28 VDC ATEX / IECEX / NEC / CEC Solenoid 28 VDC ATEX / IECEX / NEC / CEC Solenoid 28 VDC ATEX / IECEX / NEC / CEC Solenoid 28 VDC ATEX / IECEX / NEC / CEC Solenoid 28 VDC ATEX / IECEX / NEC / CEC Solenoid 28 VDC ATEX / IECEX / NEC / CEC Solenoid 28 VDC ATEX / IECEX / NEC / CEC Solenoid 29 VDC ATEX / IECEX / NEC / CEC Solenoid 29 VDC ATEX / IECEX / NEC / CEC Solenoi	·				
V- Vitton Diaphragm Material A - Santoprene C - Hytrel L - Long Life PTE T - PTFE / Santoprene V- Vitton Revision A- Revision Specialty Code 1 (Blank if no Speciality Code) - Solenoid 12 VAC, AND 26 VAC, C - Solenoid 12 VDC, ALV ACA ND 26 VAC C - Solenoid 12 VDC, ALV ACA ND 26 VAC C - Solenoid 12 VDC, ALV ACA ND 26 VAC C - Solenoid 12 VDC, ALV ACA ND 26 VAC C - Solenoid 12 VDC, ALV ACA ND 26 VAC C - Solenoid 12 VDC, ALV ACA ND 26 VAC C - Solenoid 12 VDC, ALV ACA ND 26 VAC C - Solenoid 12 VDC, ALV ACA ND 26 VAC C - Solenoid 12 VDC, ALV ACA ND 26 VAC C - Solenoid 12 VDC, ALV ACA ND 26 VAC C - Solenoid 12 VDC, ALV ACA ND 26 VAC C - Solenoid 12 VDC ATEX / IECE N - Solenoid with no Coil P - Ported Motor (No major valve) O - Standard Valve Block (No Solenoid) S - Cycle Sensing on Major Valve Specialty Code 2 (Blank if no Speciality Code) E - End of Stroke feedback E - End of Stroke feedback E - End of Stroke Heak Detection ATEX / IECEX / NEC / CEC L - Leak Detection M - Leak Detection ATEX / IECEX / NEC / CEC E - End of Stroke NEC E - End of Stroke NEC T - End of Stroke NEC O - No option					
A - Santoprene C - Hytrel L Long Life PTFE T - PTFE / Santoprene V - Viton Revision A - Revision Specialty Code 1 (Blank if no Speciality Code) A - Solenoid 12 0 VAC, 110 VAC AND 60 VDC B - Solenoid 12 VDC, 24 VAC AND 22 VAC C - Solenoid 12 VDC, 24 VAC AND 120 VDC D - Solenoid 24 VDC, 48 VAC AND 40 VAC E - Solenoid 12 VDC NEC / CEC G - Solenoid 12 VDC NEC / CEC F - Solenoid 12 VDC NEC / CEC F - Solenoid 12 VDC NEC / CEC S - Solenoid 12 VDC ATEX / IECEX J - Solenoid 24 VDC ATEX / IECEX J - Solenoid 24 VDC ATEX / IECEX D - Solenoid 24 VDC ATEX / IECEX Solenoid 200 VAC ATEX / IECEX Solenoid 200 VAC ATEX / IECEX Solenoid 200 VAC MEC / CEC E - Solenoid 200 VAC ATEX / IECEX /					
C - Hytref L - Long Life PTFE T - PTFL / Santoprene V - Viton Revision A - Revision Specialty Code 1 (Blank if no Speciality Code) A - Solenoid 120 VAC,110 VAC AND 60 VDC B - Solenoid 12 VDC, 24 VAC AND 22 VAC C - Solenoid 24 VDC, 24 VAC AND 22 VAC E - Solenoid 24 VDC, 48 VAC AND 44 VAC E - Solenoid 12 VDC REC / CEC F - Solenoid 24 VDC NEC / CEC G - Solenoid 12 VDC ATEX / IECEX J - Solenoid 12 VDC ATEX / IECEX J - Solenoid 12 VDC ATEX / IECEX J - Solenoid 12 VDC ATEX / IECEX Solenoid 22 OVA CA NED 10 VAC NEC / CEC C - Solenoid 12 VDC NEC / CEC C - Solenoid 12 VDC NEC / CEC Solenoid 25 VDC NEC / CEC Solenoid 12 VDC NEC / CEC Solenoid 12 VDC ATEX / IECEX Solenoid 12 VDC NEC / CEC Soleno	Diaphragm Material				
L - Long Life PTFE T - PTFE / Santoprene V - Viton Revision A - Revision Specialty Code 1 (Blank if no Speciality Code) A - Solenoid 12 VAC, 110 VAC AND 60 VDC B - Solenoid 12 VDC, 24 VAC AND 22 VAC C - Solenoid 24 VDC, 48 VAC AND 120 VDC D - Solenoid 24 VDC, 48 VAC AND 120 VDC E - Solenoid 12 VDC NEC / CEC F - Solenoid 12 VDC ATEX / IECEX J - Solenoid 120 VAC NEC / CEC K - Solenoid 120 VAC NEC / CEC K - Solenoid 120 VAC NEC / CEC S - Solenoid 120 VAC NEC / CEC S - Solenoid 120 VAC NEC / CEC C - Solenoid 24 VDC ATEX / IECEX J - Solenoid 120 VAC NEC / CEC S - Solenoid 20 VAC ATEX / IECEX / NEC / CEC L Lead of Stroke feedback + Leak Detection F - End of Stroke Feedback + Leak Detection F - End of Stroke ATEX / IECEX / NEC / CEC L Leak Detection ATEX / IECEX / NEC / CEC R - End of Stroke NEC T - End of Stroke NEC O - No option Special Testing	A - Santoprene				
T. PITÉZ / Santoprene V. Viton Revision A- Revision Specialty Code 1 (Blank if no Speciality Code) A- Solenoid 120 VAC,110 VAC AND 60 VDC B- Solenoid 120 VAC,210 VAC AND 120 VDC C- Solenoid 24 VDC, 48 VAC AND 120 VDC D- Solenoid 24 VDC, 48 VAC AND 140 VAC E- Solenoid 12 VDC AEZ / IECEX Solenoid 12 VDC ATEX / IECEX Solenoid 12 VDC ATEX / IECEX J- Solenoid 12 VDC ATEX / IECEX Solenoid 120 VAC NEC / CEC C- Solenoid 120 VAC NEC / CEC Solenoid 120 VAC NEC / CEC Solenoid 120 VAC MITEX / IECEX Solenoid 120 VAC MITEX / IECEX Solenoid 24 VDC ATEX / IECEX Solenoid 25 VDC ATEX / IECEX Solenoid 15 VDC ATEX / IECEX Solenoid 16 VDC ATEX / IECEX Solenoid 17 VDC ATEX / IECEX Solenoid 18 VDC ATEX / IECEX / IECX / I					
V- Viton Revision Specialty Code 1 (Blank if no Speciality Code) A- Solenoid 120 VAC,110 VAC AND 60 VDC B- Solenoid 12 VDC, 24 VAC AND 22 VAC C- Solenoid 240 VAC, 220 VAC AND 120 VDC D- Solenoid 24 VDC, 48 VAC AND 44 VAC E- Solenoid 12 VDC NEC / CEC F- Solenoid 12 VDC NEC / CEC G- Solenoid 12 VDC ATEX / IECEX H- Solenoid 12 VDC ATEX / IECEX J- Solenoid 12 VDC ATEX / IECEX J- Solenoid 120 VAC NEC / CEC S- Solenoid 24 VDC ATEX / IECEX J- Solenoid VAV NEC / CEC S- Solenoid VAV NE Block (No Solenoid) S- Cycle Sensing on Major valve Specialty Code 2 (Blank if no Speciality Code) E- End of Stroke feedback S- End of Stroke ATEX / IECEX / NEC / CEC L- Leak Detection Leak Detection ATEX / IECEX / NEC / CEC R- End of Stroke NEC T- End of Stroke NEC T- End of Stroke NEC T- End of Stroke NEC / Leak Detection NEC No option Special Testing					
Revision A- Revision Specialty Code 1 (Blank if no Speciality Code) A- Solenoid 120 VAC,110 VAC AND 60 VDC B- Solenoid 12 VDC, 24 VAC AND 120 VDC D- Solenoid 24 VDC, 48 VAC AND 120 VDC D- Solenoid 12 VDC NEC / CEC F- Solenoid 12 VDC NEC / CEC G- Solenoid 12 VDC NEC / CEC H- Solenoid 24 VDC ATEX / IECEX J- Solenoid 12 VDC NEC / CEC K- Solenoid 12 VDC NEC / CEC K- Solenoid 12 VDC NEC / CEC H- End of Stroke feedback + Leak Detection F- End of Stroke ATEX / IECEX / NEC / CEC L- Leak Detection Leak Detection ATEX / IECEX / NEC / CEC R- End of Stroke NEC / Leak Detection NEC O No option Special Testing					
A- Revision Specialty Code 1 (Blank if no Speciality Code) A- Solenoid 120 VAC,110 VAC AND 60 VDC B- Solenoid 124 VDC, 24 VAC AND 22 VAC C- Solenoid 240 VAC, 220 VAC AND 120 VDC D- Solenoid 12 VDC NEC / CEC F- Solenoid 12 VDC NEC / CEC G- Solenoid 12 VDC NEC / CEC G- Solenoid 12 VDC ATEX / IECEX H- Solenoid 24 VDC, ATEX / IECEX J- Solenoid 120 VAC ATEX / IECEX N- Solenoid 220 VAC ATEX / IECEX N- Solenoid 220 VAC ATEX / IECEX N- Solenoid 200 VAC NEC / CEC Solenoid 100 VAC NEC / CEC Solenoid 200 VAC NEC / CEC End of Stroke feedback + Leak Detection F- End of Stroke feedback G- End of Stroke ATEX / IECEX / NEC / CEC L- Leak Detection Leak Detection ATEX / IECEX / NEC / CEC R- End of Stroke NEC T- End of Stroke NEC T- End of Stroke NEC / Leak Detection NEC O- No option Special Testing					
Specialty Code 1 (Blank if no Speciality Code) A- Solenoid 120 VAC,110 VAC AND 60 VDC B- Solenoid 124 VDC, 24 VAC AND 22 VAC C- Solenoid 240 VAC, 220 VAC AND 120 VDC D- Solenoid 24 VDC, 48 VAC AND 44 VAC E- Solenoid 12 VDC NEC / CEC F- Solenoid 12 VDC NEC / CEC G- Solenoid 12 VDC ATEX / IECEX J- Solenoid 120 VAC NEC / CEC K- Solenoid 120 VAC NEC / CEC W- Solenoid 120 VAC NEC / CEC HE do of Stroke feedback + Leak Detection FEC / CEC Leak Detection ATEX / IECEX / NEC / CEC Leak Detection ATEX / IECEX / NEC / CEC End of Stroke NEC / Leak Detection NEC No option Special Testing					
A- Solenoid 120 VAC, 110 VAC AND 60 VDC B- Solenoid 12 VDC, 24 VAC AND 22 VAC C- Solenoid 24 VDC, 28 VAC AND 120 VDC D- Solenoid 24 VDC, 48 VAC AND 44 VAC E- Solenoid 12 VDC NEC / CEC F- Solenoid 12 VDC ATEX / IECEX H- Solenoid 12 VDC ATEX / IECEX J- Solenoid 120 VAC NEC / CEC K- Solenoid 120 VAC NEC / CEC K- Solenoid 120 VAC NEC / CEC W- Solenoid 120 VAC NEC / CEC F- Solenoid 220 VAC ATEX / IECEX Solenoid 25 VEC Solenoid VIEC / CEC Solenoid 26 VEC / CEC Solenoid 27 VEC / CEC Solenoid 28 VEC / CEC / CEC Solenoid 28 VEC / CEC					
B- Solenoid 12 VDC, 24 VAC AND 22 VAC C- Solenoid 24 VDC, 48 VAC AND 120 VDC D- Solenoid 24 VDC, 48 VAC AND 44 VAC E- Solenoid 12 VDC NEC / CEC F- Solenoid 12 VDC NEC / CEC G- Solenoid 12 VDC ATEX / IECEX H- Solenoid 12 VDC ATEX / IECEX J- Solenoid 12 VDC ATEX / IECEX J- Solenoid 120 VAC NEC / CEC K- Solenoid 120 VAC NEC / CEC K- Solenoid 220VAC ATEX / IECEX J- Solenoid 200 VAC NEC / CEC K- Solenoid with no Coil P- Ported Motor (No major valve) O- Standard Valve Block (No Solenoid) S- Cycle Sensing on Major Valve Specialty Code 2 (Blank if no Speciality Code) E- End of Stroke feedback + Leak Detection F- End of Stroke feedback + Leak Detection ATEX / IECEX / NEC / CEC L- Leak Detection M- Leak Detection ATEX / IECEX / NEC / CEC R- End of Stroke NEC - No option Special Testing					-
C- Solenoid 24 VAC, 220 VAC AND 120 VDC D- Solenoid 24 VDC, 48 VAC AND 44 VAC E- Solenoid 12 VDC NEC / CEC F- Solenoid 12 VDC NEC / CEC G- Solenoid 12 VDC ATEX / IECEX H- Solenoid 120 VAC NEC / CEC K- Solenoid 200 VAC NEC / CEC N- Solenoid With no Coil P- Ported Motor (No major valve) O- Standard Valve Block (No Solenoid) S- Cycle Sensing on Major Valve Specialty Code 2 (Blank if no Speciality Code) E- End of Stroke feedback + Leak Detection F- End of Stroke feedback - Leak Detection F- End of Stroke ATEX / IECEX / NEC / CEC L- Leak Detection M- Leak Detection ATEX / IECEX / NEC / CEC R- End of Stroke NEC T- End of Stroke NEC - No option Special Testing					
D- Solenoid 24 VDC, 48 VAC AND 44 VAC E- Solenoid 12 VDC NEC / CEC G- Solenoid 12 VDC ATEX / IECEX H- Solenoid 12 VDC ATEX / IECEX J- Solenoid 12 VDC NEC / CEC K- Solenoid 220 VAC ATEX / IECEX N- Solenoid 220 VAC ATEX / IECEX N- Solenoid with no Coil P- Ported Motor (No major valve) 0- Standard Valve Block (No Solenoid) 5- Cycle Sensing on Major Valve Specialty Code 2 (Blank if no Speciality Code) E- End of Stroke feedback + Leak Detection F- End of Stroke ATEX / IECEX / NEC / CEC L- Leak Detection M- Leak Detection ATEX / IECEX / NEC / CEC L- End of Stroke NEC T- End of Stroke NEC T- End of Stroke NEC No option Special Testing					
E- Solenoid 12 VDC NEC / CEC F- Solenoid 12 VDC ATEX / IECEX H- Solenoid 12 VDC ATEX / IECEX J- Solenoid 120 VAC NEC / CEC K- Solenoid 120 VAC NEC / CEC K- Solenoid 220 VDC ATEX / IECEX N- Solenoid with no Coil P- Ported Motor (No major valve) 0- Standard Valve Block (No Solenoid) S- Cycle Sensing on Major Valve Specialty Code 2 (Blank if no Speciality Code) E- End of Stroke feedback + Leak Detection F- End of Stroke ATEX / IECEX / NEC / CEC L- Leak Detection M- Leak Detection ATEX / IECEX / NEC / CEC L- End of Stroke NEC / Leak Detection NEC O- No option Special Testing	•				
G- Solenoid 12 VDC ATEX / IECEX H- Solenoid 24 VDC ATEX / IECEX J- Solenoid 220VAC ATEX / IECEX N- Solenoid with no Coil P- Ported Motor (No major valve) 0- Standard Valve Block (No Solenoid) 5- Cycle Sensing on Major Valve Specialty Code 2 (Blank if no Speciality Code) E- End of Stroke feedback + Leak Detection F- End of Stroke ATEX / IECEX / NEC / CEC H- End of Stroke + Leak Detection ATEX / IECEX / NEC / CEC L- Leak Detection M- Leak Detection ATEX / IECEX / NEC / CEC R- End of Stroke NEC T- End of Stroke NEC T- End of Stroke NEC / Leak Detection NEC No option Special Testing					
H- Solenoid 24 VDC ATEX / IECEX J- Solenoid 120 VAC NEC / CEC K- Solenoid 220VAC ATEX / IECEX N- Solenoid with no Coil P- Ported Motor (No major valve) O- Standard Valve Block (No Solenoid) S- Cycle Sensing on Major Valve Specialty Code 2 (Blank if no Speciality Code) E- End of Stroke feedback + Leak Detection F- End of Stroke feedback G- End of Stroke ATEX / IECEx / NEC / CEC H- End of Stroke + Leak Detection ATEX / IECEx / NEC / CEC L- Leak Detection ATEX / IECEx / NEC / CEC T- End of Stroke NEC T- End of Stroke NEC / Leak Detection NEC No option Special Testing	F- Solenoid 24 VDC NEC / CEC				
J- Solenoid 120 VAC NEC / CEC K- Solenoid 220VAC ATEX / IECEx N- Solenoid with no Coil P- Ported Motor (No major valve) 0- Standard Valve Block (No Solenoid) 5- Cycle Sensing on Major Valve Specialty Code 2 (Blank if no Speciality Code) E- End of Stroke feedback + Leak Detection F- End of Stroke feedback G- End of Stroke ATEX / IECEx / NEC / CEC H- End of Stroke + Leak Detection ATEX / IECEx / NEC / CEC L- Leak Detection M- Leak Detection ATEX / IECEx / NEC / CEC R- End of Stroke NEC T- End of Stroke NEC / Leak Detection NEC No option Special Testing					
K- Solenoid 220VAC ATEX / IECEx N- Solenoid with no Coil P- Ported Motor (No major valve) 0- Standard Valve Block (No Solenoid) 5- Cycle Sensing on Major Valve Specialty Code 2 (Blank if no Speciality Code) E- End of Stroke feedback + Leak Detection F- End of Stroke feedback G- End of Stroke ATEX / IECEx / NEC / CEC H- End of Stroke + Leak Detection ATEX / IECEx / NEC / CEC L- Leak Detection M- Leak Detection ATEX / IECEx / NEC / CEC R- End of Stroke NEC T- End of Stroke NEC / Leak Detection NEC O- No option Special Testing					
N- Solenoid with no Coil P- Ported Motor (No major valve) 0- Standard Valve Block (No Solenoid) S- Cycle Sensing on Major Valve Specialty Code 2 (Blank if no Speciality Code) E- End of Stroke feedback + Leak Detection F- End of Stroke feedback G- End of Stroke ATEX / IECEx / NEC / CEC H- End of Stroke + Leak Detection ATEX / IECEx / NEC / CEC L- Leak Detection M- Leak Detection M- Leak Detection ATEX / IECEx / NEC / CEC R- End of Stroke NEC T- End of Stroke NEC / Leak Detection NEC O- No option Special Testing					
P- Ported Motor (No major valve) 0- Standard Valve Block (No Solenoid) 5- Cycle Sensing on Major Valve Specialty Code 2 (Blank if no Speciality Code) E- End of Stroke feedback + Leak Detection F- End of Stroke feedback G- End of Stroke ATEX / IECEx / NEC / CEC H- End of Stroke + Leak Detection ATEX / IECEx / NEC / CEC L- Leak Detection M- Leak Detection ATEX / IECEx / NEC / CEC R- End of Stroke NEC T- End of Stroke NEC / Leak Detection NEC O- No option Special Testing					
O- Standard Valve Block (No Solenoid) S- Cycle Sensing on Major Valve Specialty Code 2 (Blank if no Speciality Code) E- End of Stroke feedback + Leak Detection F- End of Stroke ATEX / IECEx / NEC / CEC H- End of Stroke ATEX / IECEx / NEC / CEC L- Leak Detection ATEX / IECEx / NEC / CEC L- Leak Detection ATEX / IECEx / NEC / CEC R- End of Stroke NEC T- End of Stroke NEC / Leak Detection NEC O- No option Special Testing					
Specialty Code 2 (Blank if no Speciality Code) E- End of Stroke feedback + Leak Detection F- End of Stroke feedback G- End of Stroke ATEX / IECEx / NEC / CEC H- End of Stroke + Leak Detection ATEX / IECEx / NEC / CEC L- Leak Detection M- Leak Detection ATEX / IECEx / NEC / CEC R- End of Stroke NEC T- End of Stroke NEC / Leak Detection NEC O- No option Special Testing					
E- End of Stroke feedback + Leak Detection F- End of Stroke feedback G- End of Stroke ATEX / IECEx / NEC / CEC H- End of Stroke + Leak Detection ATEX / IECEx / NEC / CEC L- Leak Detection M- Leak Detection ATEX / IECEx / NEC / CEC R- End of Stroke NEC T- End of Stroke NEC / Leak Detection NEC O- No option Special Testing	,				
F- End of Stroke feedback G- End of Stroke ATEX / IECEx / NEC / CEC H- End of Stroke + Leak Detection ATEX / IECEx / NEC / CEC L- Leak Detection M- Leak Detection ATEX / IECEx / NEC / CEC R- End of Stroke NEC T- End of Stroke NEC / Leak Detection NEC O- No option Special Testing	Specialty Code 2 (Blank if no Speciality Code)				
F- End of Stroke feedback G- End of Stroke ATEX / IECEx / NEC / CEC H- End of Stroke + Leak Detection ATEX / IECEx / NEC / CEC L- Leak Detection M- Leak Detection ATEX / IECEx / NEC / CEC R- End of Stroke NEC T- End of Stroke NEC / Leak Detection NEC 0- No option Special Testing	E- End of Stroke feedback + Leak Detection				
H- End of Stroke + Leak Detection ATEX / IECEx / NEC / CEC L- Leak Detection M- Leak Detection ATEX / IECEx / NEC / CEC R- End of Stroke NEC T- End of Stroke NEC / Leak Detection NEC 0- No option Special Testing					
L- Leak Detection M- Leak Detection ATEX / IECEx / NEC / CEC R- End of Stroke NEC T- End of Stroke NEC / Leak Detection NEC 0- No option Special Testing					
M- Leak Detection ATEX / IECEx / NEC / CEC R- End of Stroke NEC T- End of Stroke NEC / Leak Detection NEC 0- No option Special Testing					
R- End of Stroke NEC T- End of Stroke NEC / Leak Detection NEC 0- No option Special Testing					
T- End of Stroke NEC / Leak Detection NEC 0- No option Special Testing					
Special Testing Special Testin					
	0- No option				
Fox Charged Tecting antique, places contact your pagest In gave all Band Customer Carries Depresentative as Distributes	Special Testing				
For Special Testing options, please contact your nearest Ingersoll Rand Customer Service Representative or Distributor.	For Special Testing options, please contact your nearest Ingersoll R	and Customer Service Repres	sentative or Distributor.		

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OPERATING AND SAFETY PRECAUTIONS

READ, UNDERSTAND AND FOLLOW THIS INFORMATION TO AVOID INJURY AND PROPERTY DAMAGE.





WARNING EXCESSIVE AIR PRESSURE. Can cause personal injury, pump damage or property damage.

- Do not exceed the maximum inlet air pressure as stated on the pump model plate.
- Be sure material hoses and other components are able to withstand fluid pressures developed by this pump. Check all hoses for damage or wear. Be certain dispensing device is clean and in proper working condition.
- <u>AWARNING</u> STATIC SPARK. Can cause explosion resulting in severe injury or death. Ground pump and pumping system.
- Sparks can ignite flammable material and vapors.
- The pumping system and object being sprayed must be grounded when it is pumping, flushing, recirculating or spraying flammable materials such as paints, solvents, lacquers, etc. or used in a location where surrounding atmosphere is conducive to spontaneous combustion. Ground the dispensing valve or device, containers, hoses and any object to which material is being pumped.
- Secure pump, connections and all contact points to avoid vibration and generation of contact or static spark.
- Consult local building codes and electrical codes for specific grounding requirements.
- After grounding, periodically verify continuity of electrical path to ground. Test with an ohmmeter from each component (e.g., hoses, pump, clamps, container, spray gun, etc.) to ground to insure continuity. Ohmmeter should show 0.1 ohms or less.
- Submerse the outlet hose end, dispensing valve or device in the material being dispensed if possible. (Avoid free streaming of material being dispensed.)
- Use hoses incorporating a static wire.
- Use proper ventilation.
- Keep inflammables away from heat, open flames and sparks.
- Keep containers closed when not in use.
- In the event of a diaphragm rupture, material can be forced out of the air exhaust muffler.
- Pipe the exhaust to a safe remote location when pumping hazardous or inflammable materials.
- Use a grounded 3/4" minimum i.d. hose between the pump and the muffler.
- WARNING HAZARDOUS PRESSURE. Can result in serious injury or property damage. Do not service or clean pump, hoses or dispensing valve while the system is pressurized.
- Disconnect air supply line and relieve pressure from the system by opening dispensing valve or device and / or carefully and slowly loosening and removing outlet hose or piping from pump.

- Obtain Material Safety Data Sheets on all materials from the supplier for proper handling instructions.
- <u>MARNING</u> EXPLOSION HAZARD. Models containing aluminum wetted parts cannot be used with 1,1,1-trichloroethane, methylene chloride or other halogenated hydrocarbon solvents which may react and explode.
- Check pump motor section, fluid caps, manifolds and all wetted parts to assure compatibility before using with solvents of this type.
- ▲ CAUTION Verify the chemical compatibility of the pump wetted parts and the substance being pumped, flushed or recirculated. Chemical compatibility may change with temperature and concentration of the chemical(s) within the substances being pumped, flushed or circulated. For specific fluid compatibility, consult the chemical manufacturer.
- ▲ CAUTION Maximum temperatures are based on mechanical stress only. Certain chemicals will significantly reduce maximum safe operating temperature. Consult the chemical manufacturer for chemical compatibility and temperature limits. Refer to PUMP DATA on page 1 of this manual.
- ▲ CAUTION Be certain all operators of this equipment have been trained for safe working practices, understand it's limitations, and wear safety goggles / equipment when required.
- <u>∧ CAUTION</u> Do not use the pump for the structural support of the piping system. Be certain the system components are properly supported to prevent stress on the pump parts.
- Suction and discharge connections should be flexible connections (such as hose), not rigid piped, and should be compatible with the substance being pumped.
- <u>∧ CAUTION</u> Prevent unnecessary damage to the pump. Do not allow pump to operate when out of material for long periods of time.
- Disconnect air line from pump when system sits idle for long periods of time.
- NOTICE Install the pump in the vertical position. The pump may not prime properly if the balls do not check by gravity upon start-up.
- NOTICE Re-torque all fasteners before operation.

 Creep of housing and gasket materials may cause fasteners to loosen. Re-torque all fasteners to insure against fluid or air leakage.
- NOTICE Replacement warning labels are available upon request: "Static Spark" pn \ 93616-1, Diaphragm Rupture" pn \ 93122.

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▲WARNING = Hazards or unsafe practices which could result in severe personal injury, death or substantial property damage.
 ▲ CAUTION = Hazards or unsafe practices which could result in minor personal in-

jury, product or property damage.

NOTICE = Important installation, operation

or maintenance information.

GENERAL DESCRIPTION

The ARO diaphragm pump offers high volume delivery even at low air pressure and a broad range of material compatibility options are available. Refer to the model and option chart. ARO pumps feature stall resistant design, modular air motor / fluid sections.

Air operated double diaphragm pumps utilize a pressure differential in the air chambers to alternately create suction and a positive fluid pressure in the fluid chambers, ball checks insure a positive flow of fluid.

Pump cycling will begin as air pressure is applied and it will continue to pump and keep up with the demand. It will build and maintain line pressure and will stop cycling once maximum line pressure is reached (dispensing device closed) and will resume pumping as needed.

AIR AND LUBE REQUIREMENTS

AWARNING EXCESSIVE AIR PRESSURE. Can cause pump damage, personal injury or property damage.

- A filter capable of filtering out particles larger than 50 microns should be used on the air supply. There is no lubrication required other than the "O" ring lubricant which is applied during assembly or repair.
- If lubricated air is present, make sure that it is compatible with the "O" rings and seals in the air motor section of the pump.

OPERATING INSTRUCTIONS

- Always flush the pump with a solvent compatible with the material being pumped if the material being pumped is subject to "setting up" when not in use for a period of time.
- Disconnect the air supply from the pump if it is to be inactive for a few hours.
- The outlet material volume is governed not only by the air supply, but also by the material supply available at the inlet. The material supply tubing should not be too small or restrictive. Be sure not to use hose which might collapse.
- When the diaphragm pump is used in a forced-feed (flooded inlet) situation, it is recommended that a "check valve" be installed at the air inlet.
- Secure the diaphragm pump legs to a suitable surface to insure against damage by vibration.

MAINTENANCE

- Certain ARO "Smart Parts" are indicated which should be available for fast repair and reduction of down time.
- Provide a clean work surface to protect sensitive internal moving parts from contamination from dirt and foreign matter during service disassembly and reassembly.
- Keep good records of service activity and include the pump in preventive maintenance program.
- Service kits are available to service two separate diaphragm pump functions: 1. AIR SECTION, 2. FLUID SEC-TION. The Fluid Section is divided further to match typical active Material Options.
- Before disassembling, empty captured material in the outlet manifold by turning the pump upside down to drain material from the pump.

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[•] Hytrel® are registered trademarks of the DuPont Company • Santoprene® is a registered trademark of Monsanto Company, licensed to Advanced Elastomer Systems, L.P. • Lubriplate® is a registered trademark of Lubriplate Division (Fiske Brothers Refining Company) • ARO® is a registered trademark of Ingersoll-Rand Company •

PARTS LIST / PX07P-XXX-XXX-AXXX FLUID SECTION

★ 637427-XX Fluid Section Service Kits include: Balls (see Ball Option, refer to -XX in chart below), Diaphragms (see Diaphragm Option, refer to -XX in chart below), and item 19 (listed below) plus items 144, 174 and 94276 Lubriplate® FML-2 grease (page 7).

	COMMON PARTS					
Item	Description (size)	Qty	Part No.	[Mtl]		
□1	Connecting Rod	(1)	97132	[SS]		
5	Diaphragm Washer	(2)	94645	[GFN]		
6	Diaphragm Nut (5/16" - 18)	(2)	93103-1	[P]		
15	Fluid Cap	(2)	95732-1	[P]		
26	Flange Bolt (5/16" - 18 x 7/8")	(4)	96176	[SS]		
27	Bolt (5/16" - 18 x 1-1/4")	(20)	93095	[SS]		
29	Hex Flange Nut (5/16" - 18)	(20)	93886	[SS]		

	COMMON PARTS					
Item	Description (size)	Qty	Part No.	[Mtl]		
60	Inlet Manifold PD07P-APS-XXX-AXXX (NPT)	(1)	96605-1	[P]		
	PD07P-BPS-XXX-AXXX (BSP)] ` `	96605-2]		
61	Outlet Manifold PD07P-APS-XXX-AXXX (NPT)	(1)	96603-1	[P]		
	PD07P-BPS-XXX-AXXX (BSP)] ` `	96603-2	1		
77	Logo Plate	(2)	93264	[A]		

SEAT OPTIONS PX07P-XPS- <u>X</u> XX-AXXX						
	"21"					
-XXX Seat Qty [Mtl]						
- <u>Р</u> ХХ	96572-1	(4)	[P]			

PX	BALL OPTIONS PX07P-XPS-X <u>X</u> X-AXXX					
	★ "22" (3/4" d	iameter)			
-X <u>X</u> X	Ball	Qty	[Mtl]			
-X <u>A</u> X	93100-E	(4)	[Sp]			
-X <u>C</u> X	93100-C	(4)	[H]			
-X <u>T</u> X	93100-4	(4)	[T]			
-X <u>V</u> X	93100-3	(4)	[V]			

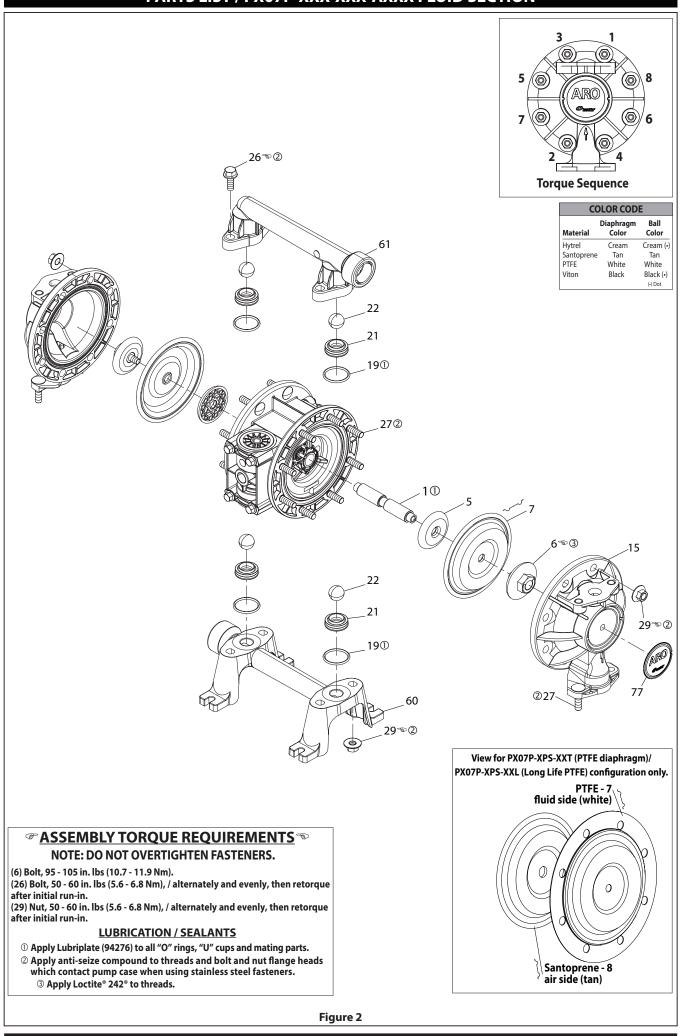
MA	TERIAL CODE
[A]	= Aluminum
[B]	= Nitrile
[E]	= E.P.R.
[GFN]	= Glass Filled Nylon
[H]	= Hytrel
[L]	 Long Life PTFE
[P]	= Polypropylene
[SP]	= Santoprene
[SS]	Stainless Steel
[T]	= PTFE
[V]	= Viton

	DIAPHRAGM OPTIONS PX07P-XPS-XXX-AXXX									
	★ Service Kit	*'	'7"		★ "8"		* "19" (3/32" x 1-5/16" o.d.		6" o.d.)	
-XX <u>X</u>	- <u>X</u> X = (Ball) -X <u>X</u> = (Diaphragm)	Diaphragm	Qty	[Mtl]	Diaphragm	Qty	[Mtl]	"O" Ring	Qty	[Mtl]
-XXA	637427-XA	93465	(2)	[Sp]				93763	(4)	[E]
-XXC	637427-XC	93465-9	(2)	[H]				Y325-122	(4)	[B]
-XXL	637427-XL	93111-L	(2)	[L]	93465	(2)	[Sp]	93265	(4)	[T]
-XXT	637427-XT	93111	(2)	[T]	93465	(2)	[Sp]	93265	(4)	[T]
-XXV	637427-XV	93581-3	(2)	[V]				Y327-122	(4)	[V]

^{☐ &}quot;Smart Parts", keep these items on hand in addition to the service kit for fast repair and reduction of down time.

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PARTS LIST / PX07P-XXX-XXX-AXXX FLUID SECTION



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PARTS LIST / PX07P-XXX-XXX-AXXX AIR MOTOR SECTION

✓ Indicates parts included in 637428 air section repair kit.

	•			
	AIR MOTOR PART	'S LI	ST	
Item	Description (size)	Qty	Part No.	[Mtl]
101	Center Body	(1)	97006	[PPG]
103R	Cover (right side)	(1)	96091	[D]
103L	Cover (left side)	(1)	96351	[D]
107	Plug, Small	(1)	96353	[D]
111	Major Valve Spool	(1)	95919	[D]
118	Actuator Pin	(2)	97111	[SS]
121	Washer	(2)	96092	[D]
123	Screw (#4 - 20 x 1/2")	(8)	96093	[SS]
126	Pipe Plug	(2)	93832-3	[D]
129	Muffler Assembly	(1)	67367	[PPG]
√ 132	Air Manifold Gasket	(1)	96214-1	[B]
134	Flange Bolt (1/4" - 20 x 5-3/4")	(4)	94871	[SS]
134	(PX07X-XXX-XXX-APXX)	(4)	96465	[SS]
135	Valve Block	(1)	96204	[PPG]
136	Plug, Large	(1)	96352	[D]
√ 137	"O" Ring (1/16" x 1-5/8" o.d.)	(3)	Y325-29	[B]
√ 138	"U" Cup Packing (1/8" x 1" o.d.)	(1)	94395	[U]
√ 139	"U" Cup Packing (1/8" x 1-7/16" o.d.)	(1)	96383	[U]

AIR MOTOR PART	'S LI	ST	
Description (size)	Qty	Part No.	[Mtl]
Valve Insert	(1)	93276	[CK]
Valve Plate	(1)	96173	[CK]
"U" Cup Packing (3/16" x 1" o.d.)	(2)	Y187-48	[B]
"O" Ring (1/16" x 1-1/4" o.d.)	(1)	Y325-24	[B]
Pilot Piston (includes 168 and 169)	(1)	67382	[D]
"O" Ring (1/16" x 7/16" o.d.)	(2)	96459	[U]
"U" Cup Packing (1/8" x 5/8" o.d.)	(1)	96384	[U]
Spool Bushing	(1)	96090	[D]
"O" Ring (1/16" x 13/16" o.d.)	(2)	Y325-17	[B]
"O" Ring (3/16" x 7/8" o.d.)	(2)	Y325-115	[B]
"O" Ring (3/32" x 11/32" o.d.)	(2)	Y325-105	[B]
Porting Gasket	(1)	96364	[B]
Lubriplate FML-2 Grease	(1)	94276	
Lubriplate Grease, 10 Pack		637308	
	Valve Insert Valve Plate "U" Cup Packing (3/16" x 1" o.d.) "O" Ring (1/16" x 1-1/4" o.d.) Pilot Piston (includes 168 and 169) "O" Ring (1/16" x 7/16" o.d.) "U" Cup Packing (1/8" x 5/8" o.d.) Spool Bushing "O" Ring (1/16" x 13/16" o.d.) "O" Ring (3/16" x 7/8" o.d.) "O" Ring (3/32" x 11/32" o.d.) Porting Gasket Lubriplate FML-2 Grease	Description (size) Qty Valve Insert (1) Valve Plate (1) "U" Cup Packing (3/16"x 1" o.d.) (2) "O" Ring (1/16"x 1-1/4" o.d.) (1) Pilot Piston (includes 168 and 169) (1) "O" Ring (1/16"x 7/16" o.d.) (2) "U" Cup Packing (1/8"x 5/8" o.d.) (1) Spool Bushing (1) "O" Ring (1/16"x 13/16" o.d.) (2) "O" Ring (3/36"x 7/8" o.d.) (2) "O" Ring (3/32"x 11/32" o.d.) (2) Porting Gasket (1) Lubriplate FML-2 Grease (1)	Valve Insert (1) 93276 Valve Plate (1) 96173 "U" Cup Packing (3/16" x 1" o.d.) (2) Y187-48 "O" Ring (1/16" x 1-1/4" o.d.) (1) Y325-24 Pilot Piston (includes 168 and 169) (1) 67382 "O" Ring (1/16" x 7/16" o.d.) (2) 96459 "U" Cup Packing (1/8" x 5/8" o.d.) (1) 96384 Spool Bushing (1) 96090 "O" Ring (1/16" x 13/16" o.d.) (2) Y325-17 "O" Ring (3/16" x 7/8" o.d.) (2) Y325-115 "O" Ring (3/32" x 11/32" o.d.) (2) Y325-105 Porting Gasket (1) 96364 Lubriplate FML-2 Grease (1) 94276

DIAPHRAGM PUMP SERVICE

GENERAL SERVICE NOTES:

- Inspect and replace old parts with new parts as necessary.
 Look for deep scratches on metallic surfaces, and nicks or cuts in "O" rings.
- Tools needed to complete disassembly and repair:
- 7/8" socket or wrench, 1/2" socket or wrench, 3/8" socket or wrench, 3/8" Allen wrench, T-10 Torx screwdriver, torque wrench (measuring inch pounds), "O" ring pick.

FLUID SECTION DISASSEMBLY

- 1. Remove (61) top manifold.
- 2. Remove (19) "O" rings, (21) seats and (22) balls.
- 3. Remove (60) bottom manifold.
- 4. Remove (19) "O" rings, (21) seats and (22) balls.
- 5. Remove (15) fluid caps.
- 6. Remove (6) diaphragm nut, (7) or (7 / 8) diaphragms and (5) washer.
- 7. Remove (1) connecting rod from air motor.
- 8. Carefully remove remaining (6) diaphragm nut, (7) or (7 / 8) diaphragms and (5) washer from (1) connecting rod. Do not mar surface of connecting rod.

FLUID SECTION REASSEMBLY

- Reassemble in reverse order.
- Lubricate (1) connecting rod with Lubriplate or equivalent "O" ring lubricant.
- Connecting rod (1) should be installed using 96571 bullet, included in service kit.
- Install (5) washers with i.d. chamfer toward diaphragm.
- When replacing PTFE diaphragms, install the 93465 Santoprene diaphragm behind the PTFE diaphragm.

AIR MOTOR SECTION SERVICE

Service is divided into two parts - 1. Pilot Valve, 2. Major Valve.

 Air Motor Section service is continued from Fluid Section repair.

PILOT VALVE DISASSEMBLY

- 1. Remove (123) screws, releasing (103) covers, (121) washers, (118) actuator pins and (167) pilot piston.
- 2. Remove (170) spool bushing and inspect inner bore of bushing for damage.

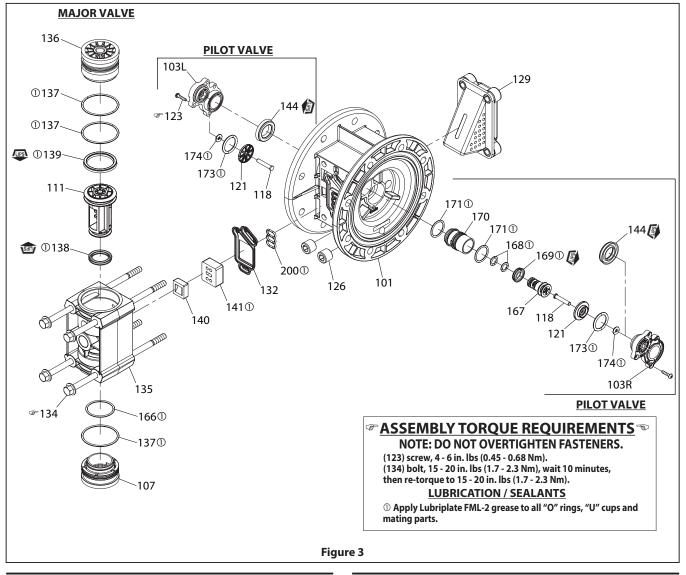
PILOT VALVE REASSEMBLY

- Clean and lubricate parts not being replaced from service kit
- 2. Assemble (171) "O" rings to (170) bushing and assemble bushing into (101) center body.
- 3. Lubricate and assemble (167) pilot piston assembly into (170) bushing.
- 4. Assemble (173 and 174) "O" rings and (121) washers to (103) covers, then insert (118) actuator pins through assembly.
- 5. Assemble (144) "U" cups (note the lip direction) and (103) covers to (101) center body, securing with (123) screws. **NOTE:** Tighten (123) screws to 4 6 in. lbs (0.45 0.68 Nm)

	MATERIAL CODE
[B]	= Nitrile
[C]	= Carbon Steel
[CK]	= Ceramic
[D]	= Acetal
[PPG]	= Glass Filled Polypropylene
[SS]	= Stainless Steel
[SY]	= Syn-Seal
[U]	= Polyurethane

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PARTS LIST / PX07P-XXX-XXX-AXXX AIR MOTOR SECTION



MAJOR VALVE DISASSEMBLY

- 1. Unthread (134) bolts, releasing (129) muffler assembly.
- 2. Pull (135) valve block and components from (101) center body.
- 3. Remove (132) gasket, (141) valve plate and (140) valve insert from (135) valve block.
- 4. Remove (134) bolts, releasing (107 and 136) plugs and (111) spool.

MAJOR VALVE REASSEMBLY

- Assemble new (138 and 139) "U" cups on (111) spool -LIPS MUST FACE EACH OTHER.
- 2. Assemble (137) "O" rings to (136) large plug.
- 3. Assemble (137 and 166) "O" rings to (107) small plug.
- 4. Insert (111) spool into (136) large plug, then insert (136) large plug into (135) valve block, being sure the (111) spool is rotated to accept (140) valve insert.
- 5. Assemble (107) small plug into (135) valve block.
- 6. Assemble (140) valve insert and (141) valve plate to (135) valve block. **NOTE:** Assemble (140) valve insert with "dished" side toward (141) valve plate. Assemble (141) valve plate with identification dot toward (132) gasket.
- 7. Assemble (132 and 200) gaskets, (135) valve block and (129) muffler assembly to (101) center body, securing with (134) bolts. **NOTE:** Tighten (134) bolts to 15 20 in. lbs (1.7 2.3 Nm).

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TROUBLE SHOOTING

Product discharged from air exhaust.

- Check for diaphragm rupture.
- Check tightness of (6) diaphragm nut.

Air bubbles in product discharge.

- Check connections of suction plumbing.
- Check "O" rings between intake manifold and fluid caps.
- Check tightness of (6) diaphragm nut.

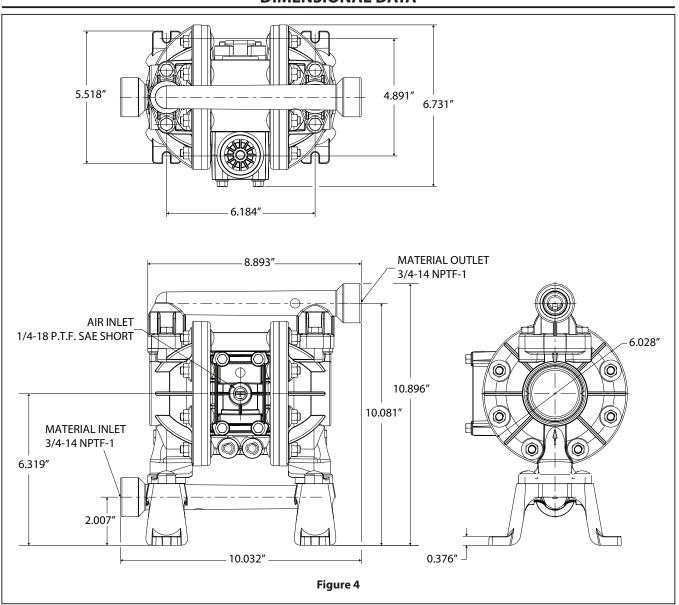
Pump blows air out main exhaust when stalled on either stroke.

- Check "U" cups on (111) spool in major valve.
- Check (141) valve plate and (140) insert for wear.
- Check (169) "U" cup on (167) pilot piston.

Low output volume.

- Check air supply.
- Check for plugged outlet hose.
- For the pump to prime itself, it must be mounted in the vertical position so that the balls will check by gravity.
- Check for pump cavitation suction pipe should be sized at least as large as the inlet thread diameter of the pump for proper flow if high viscosity fluids are being pumped. Suction hose must be non-collapsible type, capable of pulling a high vacuum.
- Check all joints on the intake manifolds and suction con-
- nections. These must be air tight. Inspect the pump for solid objects lodged in the diaphragm chamber or the seat area.

DIMENSIONAL DATA



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