



MAXIMATOR® AIR DRIVEN Liquid Pumps

LC SERIES

PRESSURES FROM 420 TO 15,000 PSI

PPO SERIES

PRESSURES FROM 60 TO 14,500 PSI

S & S-D SERIES

PRESSURES FROM 105 TO 15,000 PSI

LO SERIES

PRESSURES FROM 165 TO 14,500 PSI

GXO SERIES

PRESSURES FROM 540 TO 14,500 PSI

PP SERIES

PRESSURES FROM 60 TO 60,000 PSI

L SERIES

PRESSURES FROM 165 TO 60,000 PSI

L-D SERIES

PRESSURES FROM 165 TO 38,425 PSI

GX SERIES

PRESSURES FROM 540 TO 15,225 PSI

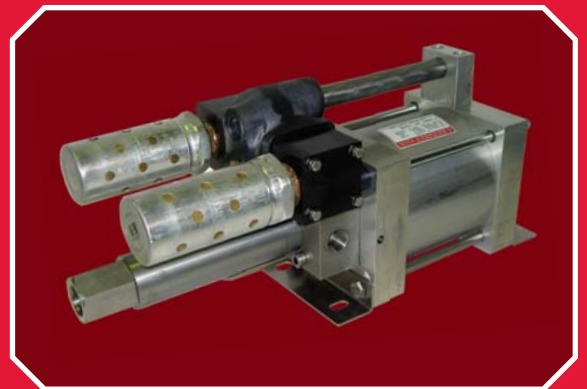
PPSF SERIES

PRESSURES FROM 60 TO 14,500 PSI

LSF SERIES

PRESSURES FROM 165 TO 23,200 PSI

MAXPRO CUSTOM DESIGNED
Power Packs, Pump Skids,
Portable Test Carts and Test Benches



Liquid Pumps

AIR DRIVEN FROM 60 PSI TO 60,000 PSI

Maximator high efficiency pumps are ideal for a broad variety of oil, water and chemical applications. They feature a large air piston joined to a smaller diameter plunger. The pressure ratio is the ratio of these two areas and is the method of determining maximum output pressure. Higher pressures are obtained by using higher pressure ratios. Maximator model numbers reflect the pump's nominal pressure ratios, while the technical data indicates exact ratios.

Maximator hydraulic pumps cycle automatically. The pump stops automatically when the output pressure forces and the air drive forces are equal. The pump restarts with a slight drop in the outlet pressure or an increase in the air drive pressure.

FEATURES

- Easy to install and operate
- Pressure maintained without energy consumption
- Explosion proof ... no electrical power required
- Pilot air control for remote operation standard on many models
- External spool valve for quick maintenance on most models
- Dry air spool valve option available for severe service applications
- Chemical service pumps are standard with separation fitting
- Optional seal materials, port connections, double acting, multiple air heads, single stroke, adjustable stroke, special pumps, just ask!

HOW TO SELECT A MAXPRO PUMP

1. Consider the type of fluid to be pumped and compatible materials.
2. Know the available minimum plant air pressure.
3. Determine the required outlet pressure.
4. Determine the required flow rate.
5. Feel free to consult your distributor or MAXPRO for application assistance.

Flow rates for each pump, at various air drive pressures and outlet pressures, are provided in the catalog. These pumps run very rapidly at no load and slow down as pressure increases. The pump will eventually come to a stop at the "stall" pressure, which is the air drive pressure times the pressure ratio of the pump. At this "stall" point there is no flow and no air consumption. The pump will hold the outlet pressure indefinitely and will only stroke if the outlet pressure drops or the air drive pressure is increased.

INSTALLATION AND MAINTENANCE

- Maximator pumps can be installed in any position, but vertical is best for longest seal life.
- All connections to the pump, both liquid (inlet and outlet) and air drive lines, must be run with equal or greater size than the connections to the pump.
- The maximum recommended height of a pump suction above the fluid level is 10 ft. for LO and L pumps, 7 ft. for S pumps, and 3 ft. for PPO and PP pumps. Operate pump slowly during initial prime.
- Drive air should be filtered between 5 μ and 40 μ and have a maximum dewpoint of 50°F. Very wet air will wash out lubricant and cause exhaust icing. Very dry air (dew point below 0°F) will dry out lubricant and cause premature failure of spool o-rings and requires the use of Dry Air Spool option.
- Pumped liquids should be filtered at 100 μ or better, viscosity between 1-100 cst.
- Pump performance is affected by many operating conditions. Extreme temperatures, pressures, and high duty cycles will increase maintenance frequency.
- All units are lubricated at the factory with silicone free semi-synthetic grease. After 2-3 months of normal (50% duty) operation, the standard spool seals should be inspected for wear and relubricated. Based on this inspection, future maintenance intervals can be planned and further disassembly and lubrication of other moving seals may be necessary. Optional Dry Air Spool seals require less maintenance.
- MAXPRO offers complete technical and service support for all Maximator pumps. Customer service is our priority!



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LC pumps are workhorses in a small inexpensive package, suitable for power packs and O.E.M. applications. LC pumps are single acting, single air drive head pumps with spring return.

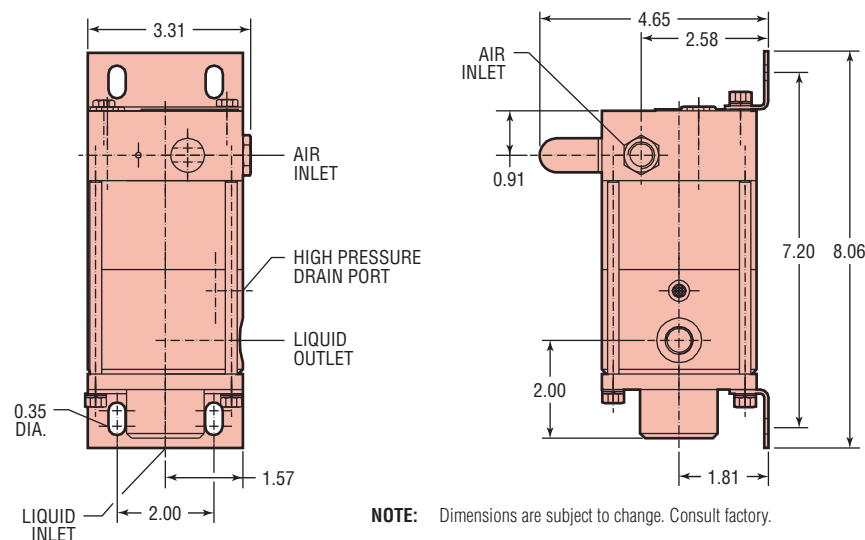
- Carbon steel body and 440B hardened stainless steel plunger.
- All LC pumps are bottom inlet and side outlet.
- Air drive pressure range is 15 – 145 psi.
- Handlever operation is available on all models; add – HL to model number. It is also an option that can be added later by the customer.
- For air control (filter, regulator, ball valve) option ... add – ACM to catalog number

TECHNICAL DATA

CATALOG NUMBER	PRESSURE RATIO	MAXIMUM OUTLET PRESSURE (PSI)	DISPL. PER CYCLE (IN. ³)	CONNECTIONS		WEIGHT (LBS.)
				INLET	OUTLET	
LC22-M	1:28	4,060	0.28	3/8	1/4	8
LC72-M	1:88	12,760	0.09	3/8	1/4	
LC189-M	1:225	15,000	0.04	3/8	1/4	

NOTE: Air drive inlet connection on all LC pumps is 1/4" FNPT. All connections listed are FNPT unless otherwise noted. Maximum allowable liquid temperature is 140°F. Air section temperature rating: 0°F to 140°F.

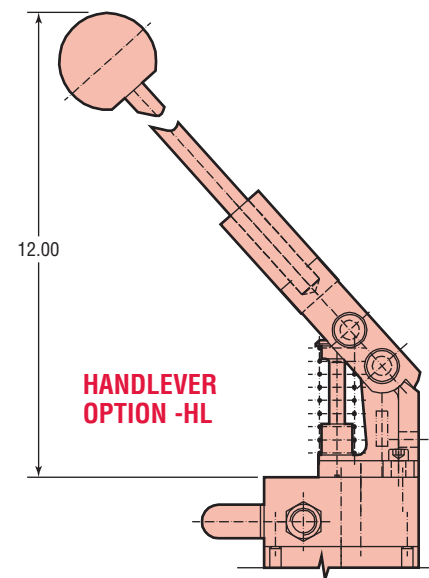
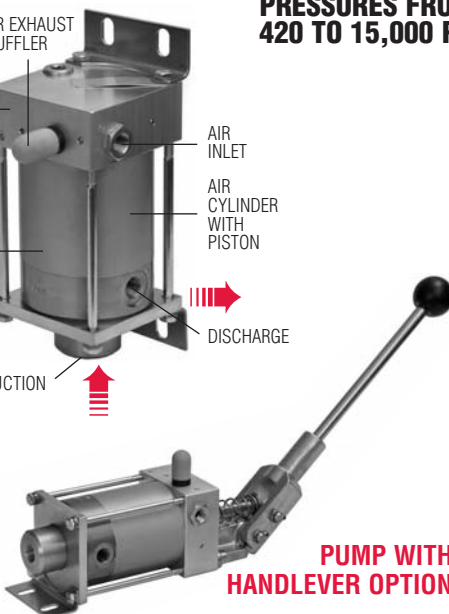
DIMENSIONS (inches)



FLOW CHART — LC SERIES

CATALOG NUMBER	SAMPLE AIR DRIVE PRESSURE (PSI)	OUTLET PRESSURE (PSI)								
		0	500	1000	2000	3000	5000	8000	10000	15000
LC22	60	148	126	79						
	90	151	140	116	93					
	120	153	146	131	93	27				
LC72	60	52	51	49	42	31				
	90	54	52	52	48	43	29			
	120	54	54	53	51	48	39	21		
LC189	60	22	22	22	20	20	18	11	7	
	90	23	23	22	22	22	20	17	15	7
	120	23	23	23	22	22	21	19	18	13

FLOW RATE IN CUBIC INCHES PER MINUTE.
MAXIMUM AIR CONSUMPTION: 25 SCFM @ 90 PSI (WITH 0 PSI OUTLET).



LC
SERIES
PRESSURES FROM
420 TO 15,000 PSI

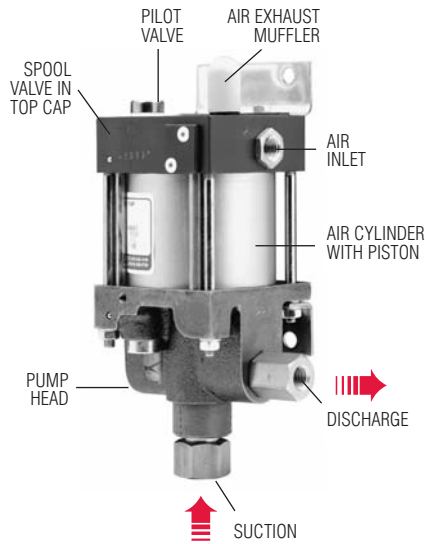
FLOW RATES SHOWN ARE FOR 1-10 CST FLUIDS.

OIL or OIL/WATER SERVICE

PPO

SERIES

**PRESSURES FROM
60 TO 14,500 PSI**



PPO pumps are lightweight and rugged making them ideal for portable power packs and are available in eight pressure ratios as listed below. PPO pumps are single acting, single air drive head types.

- Anodized aluminum bodies and plungers on the PP04-PP012, cast iron bodies on the PP022-PP0189. Tool steel plungers and polyurethane seals on all.
- All PPO series pumps are standard with bottom inlet. For a side inlet, add – S to the catalog number.
- Maximum air drive pressure is 145 psi. PPO pumps require less drive pressure because the pump is driven in both directions with no spring under the piston. This design reduces noise and provides less chance of cavitation.
- Minimum air drive pressure 15 psi.
- For air control option ... add – ACM to catalog number.

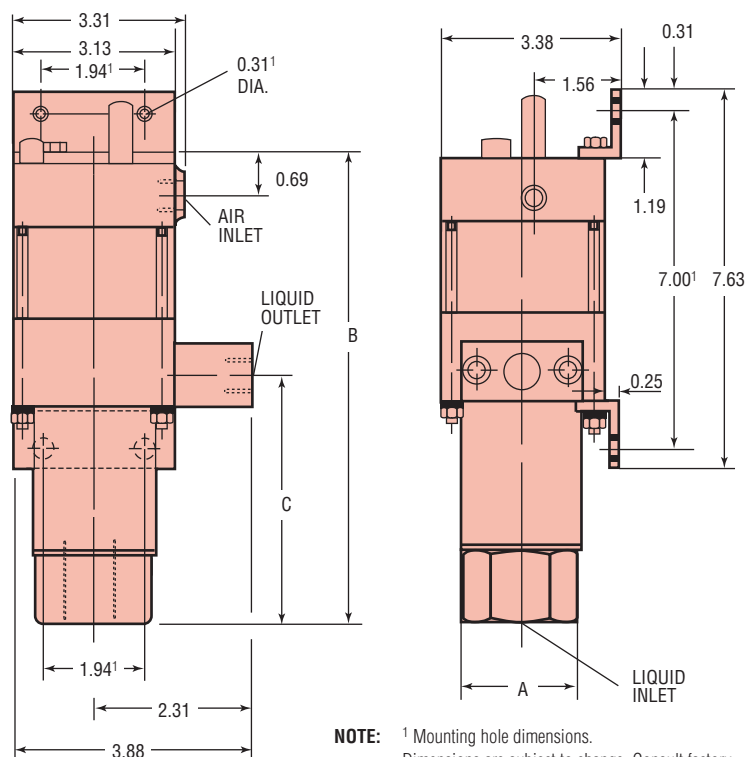
TECHNICAL DATA

CATALOG NUMBER	PRESSURE RATIO	MAXIMUM OUTLET PRESSURE (PSI)	DISPL. PER CYCLE (IN. ³)	CONNECTIONS		WEIGHT (LBS.)
				INLET	OUTLET	
PP04	1:4	580	1.86	1	1/2	6
PP08	1:9	1,305	0.90	3/4	1/2	
PP012	1:14	2,030	0.57	3/4	1/2	
PP022	1:29	4,205	0.28	3/8	1/4	7
PP037	1:47	6,815	0.17	3/8	1/4	
PP072	1:88	12,760	0.09	3/8	1/4	
PP0111	1:133	14,500	0.06	3/8	1/4	
PP0189	1:225	14,500	0.04	3/8	1/4	

NOTE: Air drive inlet connection on all PPO pumps is 1/4" FNPT.
All connections listed are FNPT unless otherwise noted.
Maximum allowable oil temperature is 140°F.
Air section temperature rating: 0°F to 140°F.

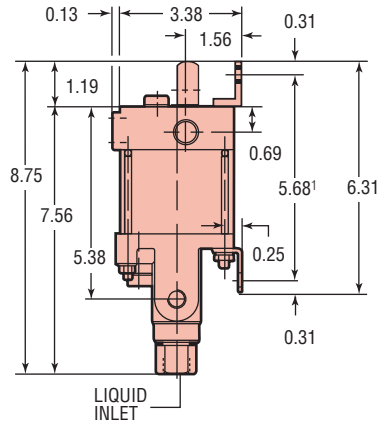
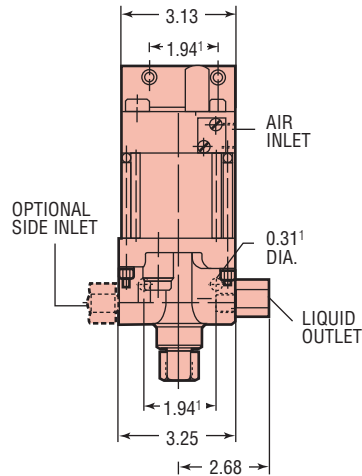
DIMENSIONS (inches) — PP04 - PP012

CATALOG NUMBER	A	B	C
PP04	1.88	9.06	4.44
PP08	1.75	8.44	3.88
PP012	1.75	8.44	3.88



NOTE: ¹ Mounting hole dimensions.
Dimensions are subject to change. Consult factory.

DIMENSIONS (inches) PP022 - PP0189



NOTE: ¹ Mounting hole dimensions.
Dimensions are subject to change. Consult factory.

PPO
SERIES
PRESSURES FROM
60 TO 14,500 PSI

FLOW CHART — PPO SERIES

CATALOG NUMBER	SAMPLE AIR DRIVE PRESSURE (PSI)	OUTLET PRESSURE (PSI)										
		0	500	1000	1500	2000	3000	4000	5000	7500	10000	12500
PP04	60	885										
	90	905										
	120	915	50									
PP08	60	422	50									
	90	430	240									
	120	433	325	60								
PP012	60	272	160									
	90	275	218	92								
	120	280	245	170	53							
PP022	60	132	110	69	22							
	90	136	126	108	82	49						
	120	138	132	120	105	85	30					
PP037	60	81	74	63	47	29						
	90	83	80	76	68	60	37	7				
	120	85	82	79	75	70	56	38	15			
PP072	60	43	42	39	37	32	22	12	3			
	90	44	43	42	41	39	36	31	24	3		
	120	45	45	44	43	42	39	36	33	21	4	
PP0111	60	28	27	26	26	24	22	16	12	2		
	90	29	28	28	27	27	26	24	22	16	8	
	120	30	29	29	28	28	27	26	25	21	16	10
PP0189	60	17	15	14	14	14	13	12	12	9	5	2
	90	17	17	17	17	16	16	15	15	12	11	9
	120	17	17	17	17	16	16	15	15	14	13	12

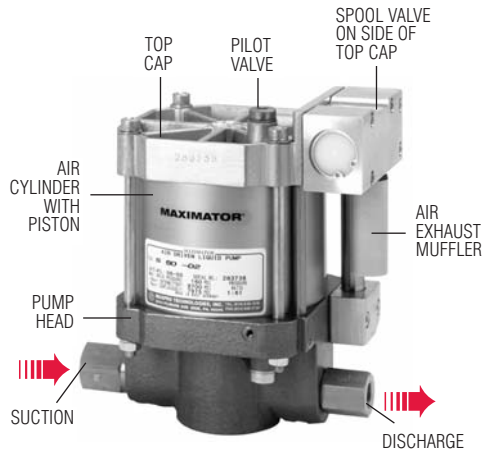
FLOW RATE IN CUBIC INCHES PER MINUTE.

MAXIMUM AIR CONSUMPTION: 20 SCFM @ 90 PSI (WITH 0 PSI OUTLET).

FLOW RATES SHOWN ARE FOR 1-10 CST FLUIDS.

S SERIES

**PRESSURES FROM
105 TO 14,500 PSI**



CATALOG NUMBER	A	B
S15	6.63	3.69
S25, S35	6.06	3.00
S60, S100	7.81	4.06
S150	7.81	3.88

OIL or OIL/WATER SERVICE

S pumps are compact and lightweight and are designed for simple installation in both static and portable applications. Available in six pressure ratios, S pumps are ideal for applications demanding fast response times.

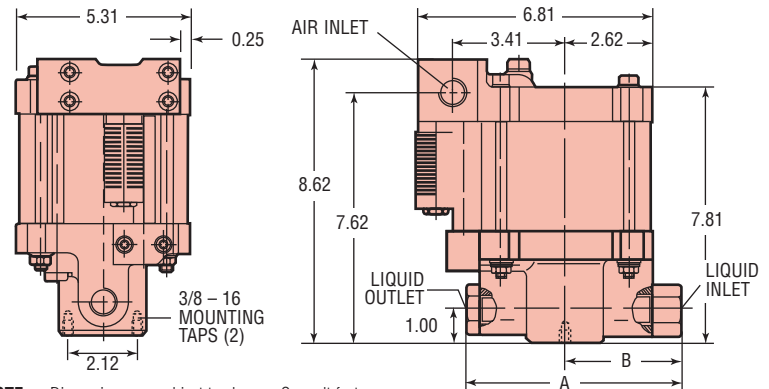
- S pumps are single acting, single air drive head types.
- Cast iron bodies, carbon steel plungers and polyurethane seals.
- All S pumps are standard with side inlet only.
- Maximum air drive pressure 145 psi.
- Minimum air drive pressure 15 psi.
- For air control option ... add – AC to catalog number.

TECHNICAL DATA

CATALOG NUMBER	PRESSURE RATIO	MAXIMUM OUTLET PRESSURE (PSI)	DISPL. PER CYCLE (IN. ³)	CONNECTIONS		WEIGHT (LBS.)
				INLET	OUTLET	
S15	1:17	2,465	1.73	3/4	1/2	20
S25	1:25	3,625	1.20	1/2	1/2	
S35	1:39	5,655	0.77	1/2	1/2	
S60	1:61	8,845	0.49	1/2	1/2	
S100	1:108	14,500	0.27	1/2	1/2	
S150	1:156	14,500	0.19	1/2	1/2	

NOTE: Air drive inlet connection on all S pumps is 1/2" FNPT.
All connections listed are FNPT unless otherwise noted.
Maximum allowable oil temperature is 140°F.
Air section temperature rating: 0°F to 140°F.

DIMENSIONS (inches)



NOTE: Dimensions are subject to change. Consult factory.

FLOW CHART — S SERIES

CATALOG NUMBER	SAMPLE AIR DRIVE PRESSURE (PSI)	OUTLET PRESSURE (PSI)										
		0	500	1000	1500	2000	3000	4000	5000	7500	10000	12500
S15	60	555	380	25								
	90	575	480	310	60							
S25	60	400	330	175								
	90	410	370	305	205	80						
S35	60	255	230	185	125	50						
	90	265	250	228	200	165	65					
S60	60	162	153	138	120	90	35					
	90	168	163	156	147	137	108	71	25			
S100	60	92	89	86	82	76	60	43	26			
	90	95	94	92	89	87	82	73	63	36		
S150	60	62	61	60	59	56	53	47	42	20		
	90	65	64	63	62	61	60	57	53	42	27	12

FLOW RATE IN CUBIC INCHES PER MINUTE.
MAXIMUM AIR CONSUMPTION: 33 SCFM @ 90 PSI (WITH 0 PSI OUTLET).

FLOW RATES SHOWN ARE FOR 1-10 CST FLUIDS.

S-D pumps are compact and lightweight and are designed for simple installation in both static and portable applications. Available in six pressure ratios, S-D pumps are ideal for high flow applications. The S-D pumps are the double acting version of the S pumps.

- **S-D pumps are double acting, single air drive head types.**
- **Cast iron bodies, carbon steel plungers and polyurethane seals.**
- **All S-D pumps are standard with side inlets only.**
- **There are two inlets (same side) and two outlets (same side).**
- **Maximum air drive pressure 145 psi.**
- **Minimum air drive pressure 15 psi.**
- **For air control option ... add – ACP to catalog number.**
- **All S-D pumps come with an unregulated pilot port, 1/8" FNPT, in the top cap. This feature provides more accurate pressure control and is an ideal location for control instrumentation.**

S-D

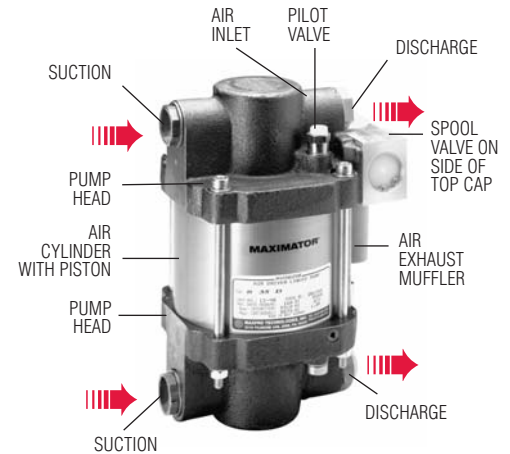
SERIES

**PRESSURES FROM
105 TO 15,000 PSI**

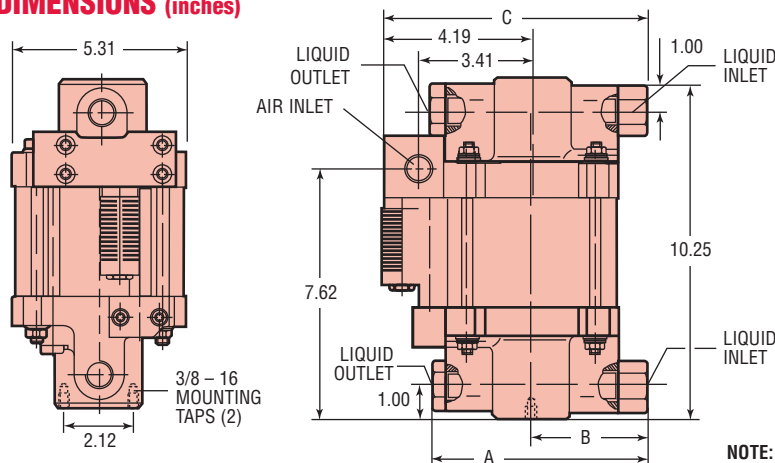
TECHNICAL DATA

CATALOG NUMBER	PRESSURE RATIO	MAXIMUM OUTLET PRESSURE (PSI)	DISPL. PER CYCLE (IN. ³)	CONNECTIONS		WEIGHT (LBS.)
				INLETS	OUTLETS	
S15-D	1:16	2,320	3.45	3/4"	1/2"	32
S25-D	1:24	3,480	2.39	1/2"	1/2"	
S35-D	1:38	5,510	1.54	1/2"	1/2"	
S60-D	1:60	8,700	0.98	1/2"	1/2"	
S100-D	1:107	14,500	0.55	1/2"	1/2"	
S250-D	1:250	15,000	0.24	1/2"	3/8"	

NOTE: Air drive inlet connection on all **S-D** pumps is 1/2" FNPT.
 All connections listed are FNPT unless otherwise noted.
 Maximum allowable oil temperature is 140°F. Air section temperature rating: 0°F to 140°F.



DIMENSIONS (inches)



CATALOG NUMBER	A	B	C
S15-D	6.63	3.69	7.88
S25-D, S35-D	6.06	3.00	7.19
S60-D, S100-D, S250-D	7.81	4.06	8.25

NOTE: Dimensions are subject to change. Consult factory.

FLOW CHART — S-D SERIES

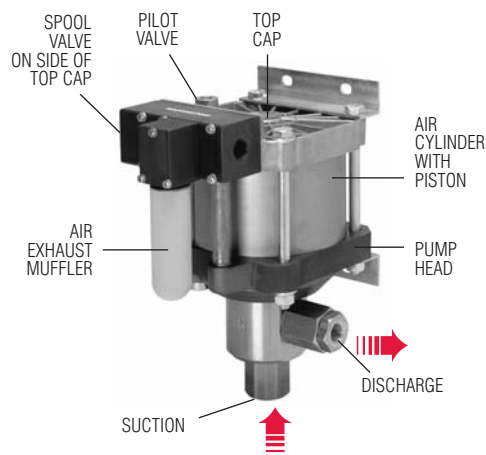
CATALOG NUMBER	SAMPLE AIR DRIVE PRESSURE (PSI)	OUTLET PRESSURE (PSI)									
		0	500	1000	1500	2000	3000	4000	5000	7500	10000
S15-D	60	1050	650								
	90	1075	900	520							
S25-D	60	715	575	280							
	90	730	660	530	340	90					
S35-D	60	455	405	315	205	75					
	90	465	440	400	345	280	90				
S60-D	60	285	270	240	210	160	60				
	90	290	285	270	265	235	185	120	40		
S100-D	60	160	153	147	141	130	110	80	50		
	90	165	163	157	154	150	140	126	111	60	
S250-D	60	70	69	68	67	66	63	62	60	50	38
	90	72	71	70	69	68	67	66	66	62	56

FLOW RATE IN CUBIC INCHES PER MINUTE.
 MAXIMUM AIR CONSUMPTION: 33 SCFM @ 90 PSI (WITH 0 PSI OUTLET).

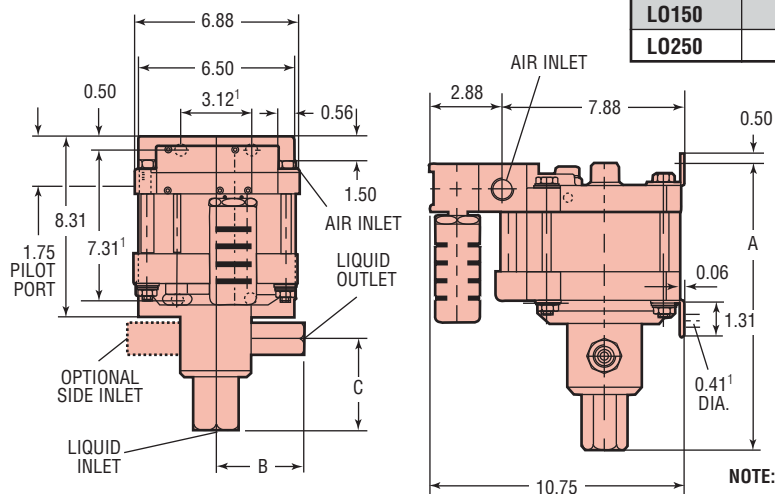
FLOW RATES SHOWN ARE FOR 1-10 CST FLUIDS.

LO SERIES

**PRESSURES FROM
165 TO 14,500 PSI**



DIMENSIONS (inches)



FLOW CHART — LO SERIES

CATALOG NUMBER	SAMPLE AIR DRIVE PRESSURE (PSI)	OUTLET PRESSURE (PSI)										
		0	500	1000	1500	2000	3000	4000	5000	7500	10000	12500
LO10	60	1100										
	90	1125	790									
LO15	60	775	540									
	90	790	650	370								
LO25	60	435	365	230								
	90	445	410	350	265	150						
LO35	60	300	270	225	150	65						
	90	305	290	270	240	200	95					
LO60	60	192	182	166	145	110	45					
	90	195	190	183	173	162	130	92	43			
LO100	60	108	105	102	97	92	78	59	37			
	90	110	108	107	105	102	95	88	78	47	5	
LO150	60	81	79	78	76	73	66	58	49	19	35	10
	90	83	82	81	80	78	75	72	67	53	41	12
LO250	60	46	45	45	44	43	42	39	37	26	20	12
	90	48	47	47	47	46	46	46	45	43	41	32

FLOW RATE IN CUBIC INCHES PER MINUTE.

MAXIMUM AIR CONSUMPTION: 45 SCFM @ 90 PSI (WITH 0 PSI OUTLET).

FLOW RATES SHOWN ARE FOR 1-10 CST FLUIDS.

LO pumps are designed for rugged service with high flows. These pumps are available in the single air drive head type with eight pressure ratios.

- Carbon steel bodies and plungers and long service life polyurethane seals.
- LO pumps come standard with a bottom inlet. For a side inlet add – S.
- Maximum air drive pressure 145 psi.
- Minimum air drive pressure 15 psi.
- For air control option ... add – ACP to catalog number.
- All LO pumps come with an unregulated pilot port, 1/8" FNPT in the top cap. This feature provides more accurate pressure control and is an ideal location for control instrumentation.

TECHNICAL DATA

CATALOG NUMBER	PRESSURE RATIO	MAXIMUM OUTLET PRESSURE (PSI)	DISPL. PER CYCLE (IN. ³)	CONNECTIONS		WEIGHT (LBS.)
				INLET	OUTLET	
LO10	1:11	1,595	5.49	1	1/2	40
LO15	1:16	2,320	3.78	1	1/2	
LO25	1:28	4,060	2.15	1/2	1/2	
LO35	1:40	5,945	1.49	1/2	1/2	
LO60	1:63	9,280	0.94	1/2	1/2	
LO100	1:113	14,500	0.54	1/2	1/2	
LO150	1:151	14,500	0.40	1/2	1/2	
LO250	1:265	14,500	0.23	1/2	1/2	

NOTE: Air drive inlet connection on all LO pumps is 1/2" FNPT. Air pilot connection is 1/8" FNPT. All connections listed are FNPT unless otherwise noted. Maximum allowable oil temperature is 140°F. Air section temperature rating: 0°F to 140°F.

CATALOG NUMBER	A	B	C
LO10 – LO15	13.00	4.00	3.88
LO25 – LO35	12.38	3.82	3.50
LO60 – LO100 LO150 – LO250	12.13	3.13	3.25

NOTE: ¹ Mounting hole dimensions. Dimensions are subject to change. Consult factory.

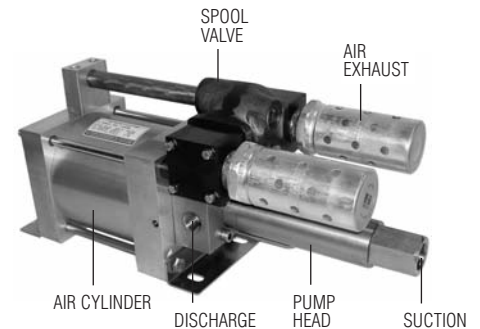
GXO pumps are high-flow pumps designed for rugged hydraulic installations and built with high strength carbon steel alloys.

- GXO series pumps have high strength 4140 carbon steel bodies and plungers, UHMWPE (Ultra High Molecular Weight Polyethylene) seals and Buna-N O-rings.
- Inlet is in end of head and outlet is on side of head.
- Maximum air drive pressure 145 psi.
- Minimum air drive pressure 15 psi.
- For air control option ... add – ACG to catalog number.
- All GXO pumps come with a pre-plumbed pilot port.

TECHNICAL DATA

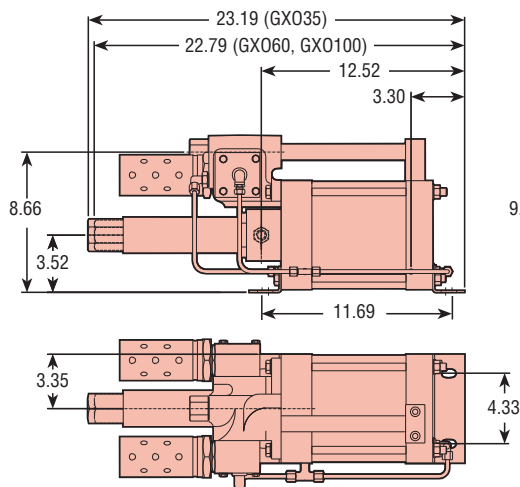
CATALOG NUMBER	PRESSURE RATIO	MAXIMUM OUTLET PRESSURE (PSI)	DISPL. PER CYCLE (IN. ³)	CONNECTIONS		WEIGHT (LBS.)
				INLET	OUTLET	
GXO35	1:36	5,220	6.71	1	3/8	51
GXO60	1:66	8,700	3.97	1/2	3/8	
GXO100	1:117	14,500	2.20	1/2	3/8	

NOTE: All connections listed are FNPT unless otherwise noted.
 Air drive inlet connection on all GXO pumps is 3/4" FNPT.
 Maximum allowable liquid temperature is 140°F.
 Air section temperature rating: 0°F to 140°F.



NOTE: The GXO pumps have a pilot port that is pre-plumbed. This port can be used for control purposes with the following modifications:
 Remove the tube from the front of spool valve housing to bottom face of end cap.
 Remove fitting in spool valve housing and plug with a 3/8" MNPT plug.
 Run your pilot air line to the bottom face connection using 6 mm tube and fittings.

DIMENSIONS (inches)



FLOW CHART — GXO SERIES

CATALOG NUMBER	SAMPLE AIR DRIVE PRESSURE (PSI)	OUTLET PRESSURE (PSI)								
		0	500	1000	2000	3000	4000	5000	7500	10000
GXO35	60	1650	1200	825	180					
	90	1900	1535	1190	635	150				
GXO60	60	975	760	610	395	165				
	90	1100	945	795	590	395	260	105		
GXO100	60	550	530	440	335	240	165	105		
	90	640	600	550	440	350	290	240	120	20

FLOW RATE IN CUBIC INCHES PER MINUTE.
 MAXIMUM AIR CONSUMPTION: 190 SCFM @ 90 PSI (WITH 0 PSI OUTLET).

FLOW RATES SHOWN ARE FOR 1-10 CST FLUIDS.

PP SERIES

**PRESSURES FROM
60 TO 60,000 PSI**



WATER or OIL SERVICE

PP pumps are compact, lightweight and feature rugged construction. They are available as single acting with either single, double, or triple air drive heads and double acting with single air drive head.

- **PP4 through PP12 pumps have anodized aluminum bodies and stainless steel plungers. PP22 through PP189 have stainless steel bodies and plungers. All PP pumps have polyurethane seals with Buna-N O-rings standard.**
- **All PP series pumps are standard with a bottom inlet. For a side inlet, add – S to the catalog number, for a hand lever, add – HL. All pumps are side outlet.**
- **Air drive pressure range is 15 – 145 psi.**
- **For air control option ... add – ACM to catalog number.**
- **With the hand lever option, the pump can operate with air or hand lever.**
- **Multiple air heads increase the effective pressure ratio of the pump. This provides higher pressure capabilities using less air pressure to achieve a given outlet pressure.**

TECHNICAL DATA

Single Air Drive Head

CATALOG NUMBER	PRESSURE RATIO	MAXIMUM OUTLET PRESSURE (PSI)	DISPL. PER CYCLE (IN. ³)	CONNECTIONS		WEIGHT (LBS.)
				INLET	OUTLET	
PP4	1:4	580	1.86	1	1/2	7
PP8	1:9	1,305	0.90	3/4	1/2	
PP12	1:14	2,030	0.57	3/4	1/2	
PP22	1:28	4,060	0.28	3/8	1/4	
PP37	1:46	6,670	0.17	3/8	1/4	
PP72	1:86	12,470	0.09	3/8	1/4	
PP111	1:130	15,000	0.06	3/8	1/4	
PP189	1:220	31,900	0.04	3/8	9/16-18	

Single Air Drive Head with Hand Lever

CATALOG NUMBER	PRESSURE RATIO	MAXIMUM OUTLET PRESSURE (PSI)	DISPL. PER CYCLE (IN. ³)	CONNECTIONS		WEIGHT (LBS.)
				INLET	OUTLET	
PP22-HL	1:28	4,060	0.28	3/8	1/4	9
PP37-HL	1:46	6,670	0.17	3/8	1/4	
PP72-HL	1:86	12,470	0.09	3/8	1/4	
PP111-HL	1:130	15,000	0.06	3/8	1/4	
PP189-HL	1:220	31,900	0.04	3/8	9/16-18	

Double Air Drive Head

CATALOG NUMBER	PRESSURE RATIO	MAXIMUM OUTLET PRESSURE (PSI)	DISPL. PER CYCLE (IN. ³)	CONNECTIONS		WEIGHT (LBS.)
				INLET	OUTLET	
PP111-2	1:260	36,250	0.06	3/8	9/16-18	9
PP189-2	1:440	60,000	0.04	3/8	9/16-18	

Triple Air Drive Head

CATALOG NUMBER	PRESSURE RATIO	MAXIMUM OUTLET PRESSURE (PSI)	DISPL. PER CYCLE (IN. ³)	CONNECTIONS		WEIGHT (LBS.)
				INLET	OUTLET	
PP111-3	1:390	36,250	0.06	3/8	9/16-18	10
PP189-3	1:660	60,000	0.04	3/8	9/16-18	

NOTE: Air drive inlet connection on all **PP** pumps is 1/4" FNPT. All connections listed are FNPT unless otherwise noted. The 9/16" – 18 is a 1/4" O.D. tubing, high pressure coned and threaded connection. Maximum allowable oil/water temperature is 140°F. Air section temperature rating: 0°F to 140°F.

FLOW CHART — PP Series

CATALOG NUMBER	SAMPLE AIR DRIVE PRESSURE (PSI)	OUTLET PRESSURE (PSI)										
		0	500	1500	3000	5000	7500	10000	15000	25000	40000	55000
PP4	60	885										
	90	905										
	120	915	50									
PP8	60	422	50									
	90	430	240									
	120	433	325									
PP12	60	272	160									
	90	275	218									
	120	280	245	53								
PP22	60	132	110	22							Above 35,000 psi for intermittent duty only	
	90	136	126	82								
	120	138	132	105	30							
PP37	60	81	74	47								
	90	83	80	68	37							
	120	85	82	75	56	15						
PP72	60	43	42	37	22	3						
	90	44	43	41	36	24	3					
	120	45	45	43	39	33	21	4				
PP111	60	28	27	26	20	12	2					
	90	29	28	27	26	22	16	8				
	120	30	29	28	27	25	21	16	3			
PP189	60	17	15	14	13	12	9	5				
	90	17	17	17	16	15	12	11	6			
	120	17	17	17	16	15	14	13	11	4		
PP111-2	60	21	20	20	20	19	16	15	9			
	90	21	21	20	20	19	17	16	12			
	120	22	22	21	21	20	19	18	16	7		
PP189-2	60	12	12	12	11	11	10	10	7	1		
	90	12	12	12	12	12	11	11	10	7		
	120	13	12	12	12	12	12	12	11	9	5	1
PP111-3	60	18	18	18	17	17	15	14	10			
	90	19	19	19	18	18	16	16	14	8		
	120	19	19	19	19	19	17	18	17	13		
PP189-3	60	11	11	11	10	10	10	9	9	6		
	90	11	11	11	11	11	11	10	10	8	5	
	120	11	11	11	11	11	11	11	11	10	8	5

FLOW RATE IN CUBIC INCHES PER MINUTE.

MAXIMUM AIR CONSUMPTION FOR "PP" PUMPS: 20 SCFM @ 90 PSI (WITH 0 PSI OUTLET).

MAXIMUM AIR CONSUMPTION FOR "PP-2" PUMPS: 30 SCFM @ 90 PSI (WITH 0 PSI OUTLET).

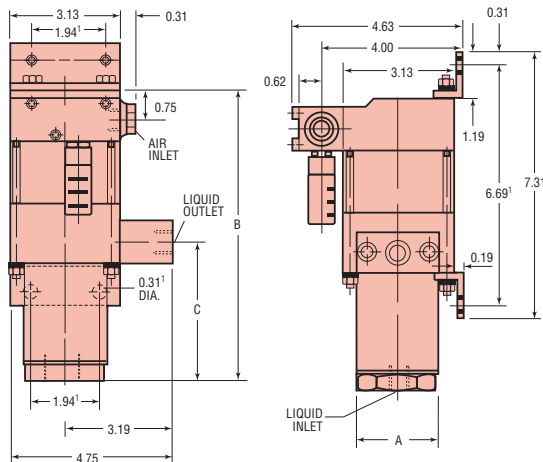
MAXIMUM AIR CONSUMPTION FOR "PP-3" PUMPS: 35 SCFM @ 90 PSI (WITH 0 PSI OUTLET).

FLOW RATES SHOWN ARE FOR 1-10 CST FLUIDS.

PP4, PP8, PP12 DIMENSIONS (inches)

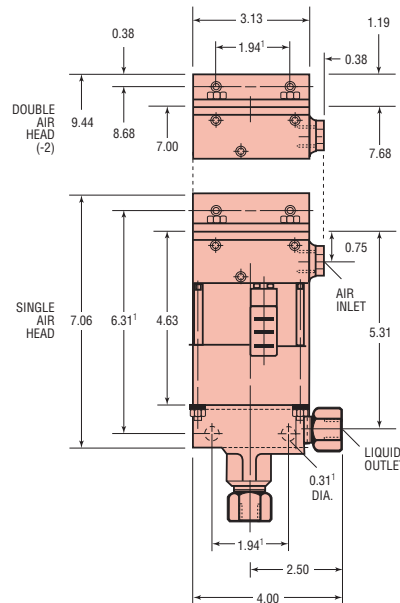
Single Air Drive Head

CATALOG NUMBER	A	B	C
PP4	2.12	8.50	4.22
PP8	1.88	8.25	3.94
PP12	1.88	8.25	3.94



NOTE: ¹ Mounting hole dimensions.
Dimensions are subject to change. Consult factory.

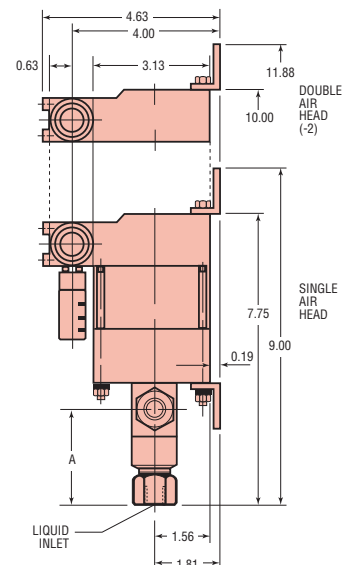
PP22 – PP189 DIMENSIONS (inches)



NOTE: ¹ Mounting hole dimensions.
Dimensions are subject to change. Consult factory.

Single, Double and Triple Air Drive Head

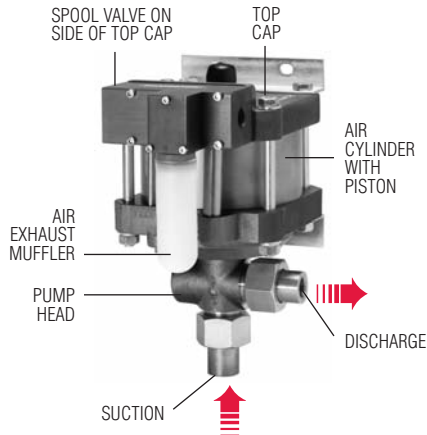
CATALOG NUMBER	A
PP22 – PP189	2.25
PP111 – 2, – 3 PP189 – 2, – 3	2.94



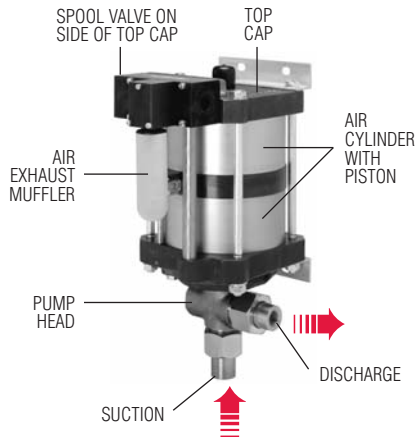
WATER OR OIL SERVICE

L SERIES

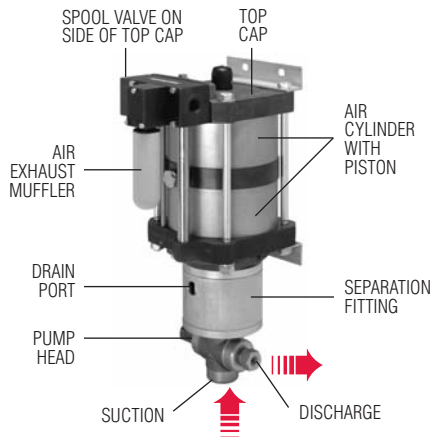
**PRESSURES FROM
165 TO 60,000 PSI**



**TYPICAL L10-VE THROUGH
L400-VE PUMPS**



**TYPICAL L10-2-VE THROUGH
L150-2-VE PUMPS**



**TYPICAL L250-2-VE THROUGH
L400-2-VE PUMPS**

L pumps are available as single acting with either a single or double air drive head and double acting with single air drive head.

- L series pumps have stainless steel bodies and 17-4 plungers.
- All L pumps have UHMWPE (Ultra High Molecular Weight Polyethylene) seals and Viton² O-rings (-VE), except as noted.
- L series pumps come standard with a bottom or side inlet. For side inlet, add – S to catalog number.
- Air drive pressure range is 15 – 145 psi unless limited by outlet pressure.
- Air drive inlet is 1/2" FNPT.
- For air control option ... add – ACP to catalog number.
- All L pumps come with an unregulated pilot port, 1/8" FNPT, in the top cap. This feature provides more accurate pressure control and is an ideal location for control instrumentation.
- All L pumps are available with a double air drive head. This doubles the pressure ratio of the pump, allowing the use of a lower ratio base pump, to provide higher flow rates. It is also used to achieve a given outlet pressure with less air drive pressure. Add – 2 to the catalog number.

TECHNICAL DATA Single Air Drive Head

CATALOG NUMBER	PRESSURE RATIO	MAXIMUM OUTLET PRESSURE (PSI)	DISPL. PER CYCLE (IN. ³)	CONNECTIONS (FNPT)		WEIGHT (LBS.)
				INLET	OUTLET ¹	
L10-VE	1:11	1,595	5.49	1	1/2	36
L15-VE	1:16	2,320	3.78	1	1/2	
L25-VE	1:28	4,060	2.15	1/2	1/2	
L35-VE	1:40	5,800	1.49	1/2	1/2	32
L60-VE	1:63	9,135	0.94	1/2	1/2	
L100-VE	1:113	15,000	0.54	1/2	1/2	
L150-VE	1:151	21,025	0.40	1/2	9/16-18	30
L250-VE*	1:265	38,425	0.23	1/2	9/16-18	
L300-VE*	1:314	45,530	0.20	1/2	9/16-18	
L400-VE*	1:398	57,710	0.15	1/2	9/16-18	
L500-S	1:591	60,000	0.12	1/2	9/16-18	

Double Air Drive Head

CATALOG NUMBER	PRESSURE RATIO	MAXIMUM OUTLET PRESSURE (PSI)	DISPL. PER CYCLE (IN. ³)	CONNECTIONS (FNPT)		WEIGHT (LBS.)
				INLET	OUTLET ¹	
L10-2-VE	1:22	3,190	5.49	1	1/2	46
L15-2-VE	1:32	4,640	3.78	1	1/2	
L25-2-VE	1:56	8,120	2.15	1/2	1/2	42
L35-2-VE	1:80	11,600	1.49	1/2	1/2	
L60-2-VE	1:126	15,000	0.94	1/2	1/2	40
L100-2-VE*	1:226	30,450	0.54	1/2	9/16-18	
L150-2-VE*	1:300	42,050	0.40	1/2	9/16-18	
L250-2-VE*	1:530	60,000	0.23	1/2	9/16-18	49
L300-2-VE*	1:628	60,000	0.20	1/2	9/16-18	
L400-2-VE*	1:796	60,000	0.15	1/2	9/16-18	
L500-2-S	1:1038	60,000	0.09	1/2	9/16-18	

NOTE: L500 pumps have polyurethane seals and Buna-N O-rings and are available side inlet only.

*These pumps have polyethylene seals and Buna-N O-rings.

¹The 9/16" –18 is a 1/4" O.D. tubing, high pressure coned and threaded connection.

Maximum allowable oil/water temperature is 140°F.

Air section temperature rating: 0°F to 140°F.

²Viton is a registered trademark of E.I. DuPont de Nemours & Co., Inc.

FLOW CHART — L Series

CATALOG NUMBER	SAMPLE AIR DRIVE PRESSURE (PSI)	OUTLET PRESSURE (PSI)										
		0	500	1500	3000	5000	7500	10000	15000	25000	40000	55000
L10-VE	60	1100	350									
	90	1125	790									
	120	1150	915									
L15-VE	60	775	540									
	90	790	650									
	120	800	705	280								
L25-VE	60	435	365	60								
	90	445	410	265								
	120	450	425	340	90							
L35-VE	60	300	270	150								
	90	305	290	240	95							
	120	310	300	270	180							
L60-VE	60	192	182	145	45							
	90	195	190	173	130	43						
	120	200	195	185	158	105	10					
L100-VE	60	108	105	97	78	37					Above 35,000 psi for intermittent duty only	
	90	110	108	105	95	78	47	5				
	120	113	110	107	103	92	73	48				
L150-VE	60	81	79	76	66	49	19					
	90	83	82	80	75	67	53	35				
	120	84	83	82	78	73	66	55	25			
L250-VE	60	46	45	44	42	37	26	20	2			
	90	47	46	45	44	43	40	36	26			
	120	48	47	47	46	45	43	41	34	17		
L300-VE	60	39	38	37	36	33	29	23	10			
	90	40	39	38	38	37	35	32	26	8		
	120	41	40	39	38	38	37	36	32	21		
L400-VE	60	30	29	29	28	27	26	23	15			
	90	31	31	31	30	30	29	27	24	15		
	120	32	32	31	31	31	30	29	27	22	8	
L500-S	60	23	23	22	21	21	20	19	16	8		
	90	24	24	23	23	23	22	22	20	15	6	
	120	24	24	24	23	23	23	23	22	19	13	5
L10-2-VE	60	880	720									
	90	890	800	350								
	120	900	840	570								
L15-2-VE	60	615	550	200								
	90	625	575	410								
	120	630	600	500	225							
L25-2-VE	60	345	330	265	60							
	90	350	335	300	208	15						
	120	355	345	320	265	150						
L35-2-VE	60	240	230	210	115							
	90	242	232	225	190	115						
	120	245	235	230	210	170	95					
L60-2-VE	60	150	148	145	120	70	2					
	90	155	152	147	136	117	80	33				
	120	157	154	152	145	133	112	82	8			
L100-2-VE	60	86	84	82	77	72	53	30				
	90	87	86	84	82	78	70	61	36			
	120	89	88	86	84	82	77	72	57	13		
L150-2-VE	60	64	64	63	60	57	50	38	14			
	90	65	65	64	62	60	57	53	41	9		
	120	66	66	65	64	63	61	58	51	32		
L250-2-VE	60	37	36	36	35	35	34	32	27	12		
	90	37	36	36	36	36	35	34	31	25	10	
	120	37	37	36	36	36	36	35	34	30	21	9
L300-2-VE	60	31	31	30	30	29	29	28	26	16		
	90	31	31	31	30	30	30	29	27	23	14	2
	120	31	31	31	31	30	30	30	29	27	21	14
L400-2-VE	60	24	24	23	23	23	22	22	21	14	5	
	90	24	24	24	24	24	23	23	23	20	15	10
	120	25	25	25	24	24	24	23	23	22	19	16
L500-2-S	60	18	18	18	18	18	17	17	17	14	11	5
	90	19	18	18	18	18	18	18	17	16	14	11
	120	19	19	18	18	18	18	18	18	17	16	14

FLOW RATE IN CUBIC INCHES PER MINUTE.

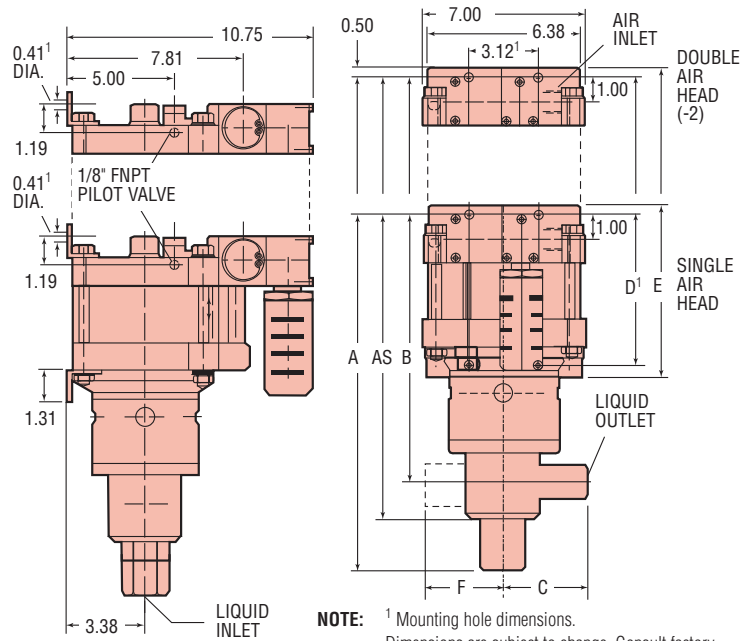
FLOW RATES SHOWN ARE FOR 1-10 CST FLUIDS.

MAXIMUM AIR CONSUMPTION FOR "L" PUMPS: 45 SCFM @ 90 PSI (WITH 0 PSI OUTLET).

MAXIMUM AIR CONSUMPTION FOR "L-2" PUMPS: 80 SCFM @ 90 PSI (WITH 0 PSI OUTLET).

L
SERIES

**PRESSURES FROM
165 TO 60,000 PSI**



L500-S AND L250-2-VE THROUGH L500-2-S

DIMENSIONS (inches)

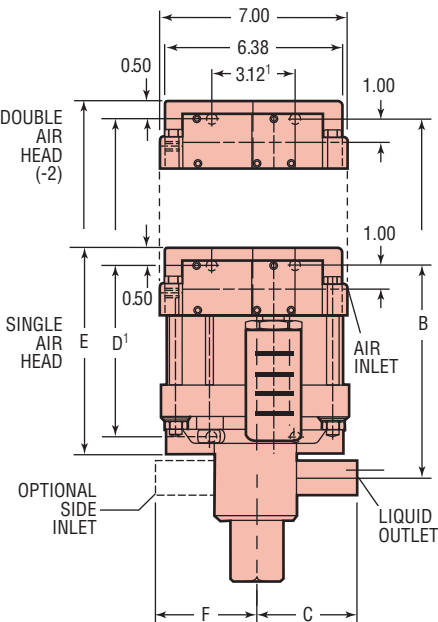
Single Air Drive Head

CATALOG NUMBER	A	AS	B	C	D	E	F
L10-VE L15-VE	12.19	—	8.25	5.06	6.88	7.81	—
L10-S-VE* L15-S-VE*	—	8.25	4.38	6.81	7.88	9.68	4.38
L25-VE L35-VE	11.62	9.75	8.25	3.63	6.88	7.81	3.19
L60-VE L100-VE L150-VE	12.13	10.19	8.38	3.44	6.88	7.81	3.81
L250-VE L300-VE L400-VE	11.81	10.25	8.38	4.00	6.88	7.81	3.31
L500-S	15.69	—	12.38	4.00	6.88	7.81	—

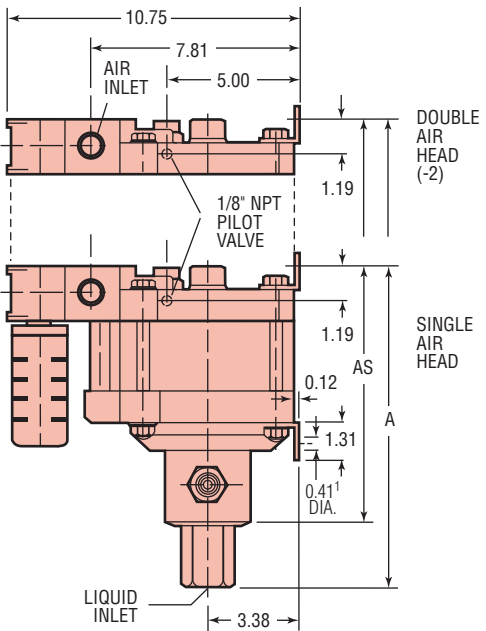
* Special configuration

Double Air Drive Head

CATALOG NUMBER	A	AS	B	C	D	E	F
L10-2-VE L15-2-VE	16.12	13.63	12.13	3.88	10.81	11.81	4.38
L25-2-VE L35-2-VE	15.50	13.75	12.13	3.63	10.81	11.81	3.19
L60-2-VE	16.00	14.06	12.38	3.44	10.81	11.81	3.81
L100-2-VE L150-2-VE	15.50	14.00	12.25	4.00	10.81	11.81	3.81
L250-2-VE L300-2-VE L400-2-VE L500-2-S	19.63	18.13	16.25	2.75	10.81	11.75	3.38



NOTE: ¹ Mounting hole dimensions.
Dimensions are subject to change. Consult factory.



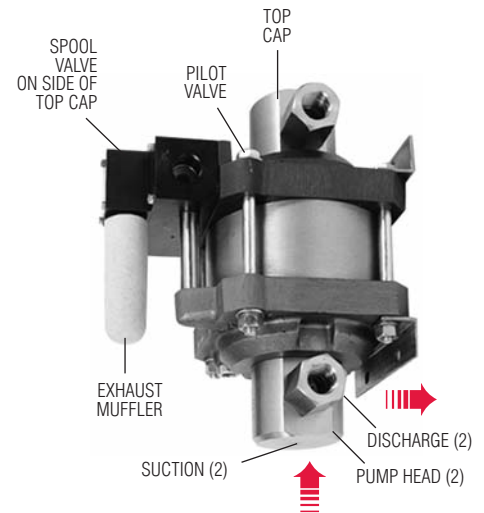
L-D pumps are double acting versions of the workhorse L series pumps.

- L-D pumps deliver approximately 50% more flow with less pulsation.
- All are single air head style, 8 pressure ratios available.
- Stainless steel bodies and plunger with UHMWPE (Ultra High Molecular Weight Polyethylene) seals and Viton² O-rings (-VE).
- L10D – L35D pumps are standard with bottom inlet. For side inlet add – S.
- L60-DS – L250DS pumps are only available with side inlet.
- Operating pressure range is 15 – 145 psi.
- For air control option add – ACP to the catalog number.
- All L-D pumps come with an unregulated pilot port, 1/8" FNPT. This standard feature allows easy on/off pump control with a very small valve or pilot switch.

L-D

SERIES

**PRESSURES FROM
165 TO 38,425 PSI**



TECHNICAL DATA

CATALOG NUMBER	PRESSURE RATIO	MAXIMUM OUTLET PRESSURE (PSI)	DISPL. PER CYCLE (IN. ³)	CONNECTIONS (FNPT U.N.)		WEIGHT (LBS.)
				INLET (2)	OUTLET (2)	
L10D-VE	1:10	1,450	10.98	1	1/2	48
L15D-VE	1:15	2,175	7.56	1	1/2	
L25D-VE	1:27	3,915	4.31	1/2	1/2	42
L35D-VE	1:40	5,800	2.98	1/2	1/2	
L60DS-VE	1:63	9,135	1.92	1/2	1/2	37
L100DS-VE	1:113	15,225	1.07	1/2	1/2	
L150DS-VE	1:151	21,025	0.80	1/2	9/16-18	
L250DS-VE	1:265	38,425	0.46	1/2	9/16-18	

NOTE: Air drive inlet connection on all L-D pumps is 1/2" FNPT.
 Air pilot connection is 1/8" and is required for operation.
 Maximum allowable liquid temperature is 140°F.
 Air section temperature rating: 0°F to 140°F.
 The 9/16" – 18 is a 1/4" O.D. tubing, high pressure coned and threaded connection.
 Consult factory for L-D pump dimensions.
²Viton is a registered trademark of E.I. DuPont de Nemours & Co., Inc.

FLOW CHART — L-D SERIES

CATALOG NUMBER	SAMPLE AIR DRIVE PRESSURE (PSI)	OUTLET PRESSURE (PSI)										
		0	500	1000	1500	2000	3000	4000	5000	7500	10000	15000
L10D-VE	60	1700	650									
	90	1750	1200									
L15D-VE	60	1150	775									
	90	1200	1000	550								
L25D-VE	60	660	580	385	120							
	90	680	630	540	220	220						
L35D-VE	60	460	420	350	250	140						
	90	460	450	415	370	300	140					
L60D-VE	60	300	285	260	230	190	100					
	90	300	290	285	270	250	200	135				
L100D-VE	60	165	162	155	150	140	120	97	65			
	90	165	163	161	160	157	134	132	120	69		
L150D-VE	60	125	123	120	116	113	103	90	77	32		
	90	125	124	123	122	121	117	110	103	76	50	
L250D-VE	60	70	69	68	67	66	63	62	60	50	38	7
	90	72	71	70	69	68	67	66	66	62	56	38

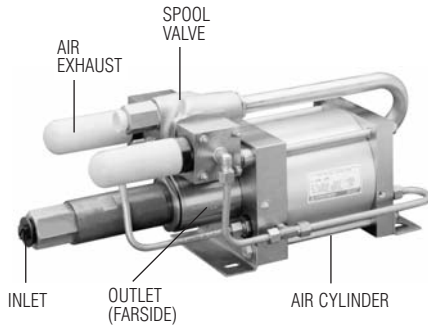
FLOW RATE IN CUBIC INCHES PER MINUTE.
 MAXIMUM AIR CONSUMPTION: 55 SCFM @ 90 PSI (WITH 0 PSI OUTLET).

FLOW RATES SHOWN ARE FOR 1-10 CST FLUIDS.

WATER OR OIL SERVICE

GX SERIES

**PRESSURES FROM
540 TO 15,225 PSI**



NOTE: The GX pumps have a pilot port that is pre-plumbed. This port can be used for control purposes with the following modifications:
Remove the tube from the front of spool valve housing to bottom face of end cap.
Remove fitting in spool valve housing and plug with a 3/8" MNPT plug.
Run your pilot air line to the bottom face connection using 10 mm tube and fittings.

GX pumps are high-flow pumps designed for rugged installations and built with environmental resistant materials. They are ideal for offshore applications with stainless steel wetted parts and corrosive resistant external components.

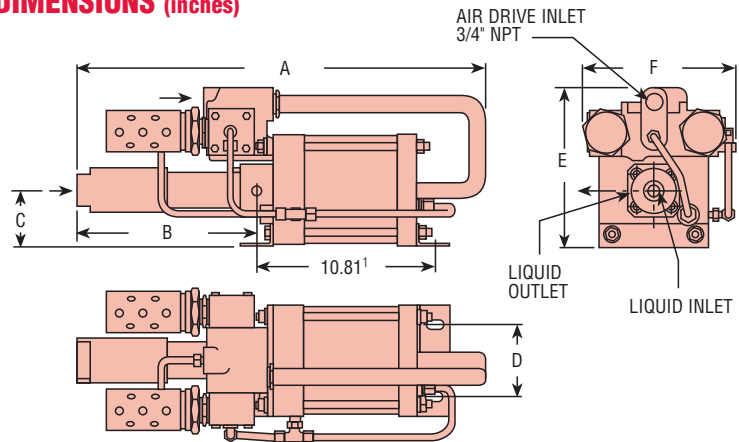
- GX series pumps have stainless steel bodies and plungers, UHMWPE (Ultra High Molecular Weight Polyethylene) seals and Viton² O-rings.
- Inlet is in end of head and outlet is on side of head.
- Maximum air drive pressure 145 psi.
- Minimum air drive pressure 15 psi.
- For air control option ... add – ACG to catalog number.
- All GX pumps come with a pre-plumbed pilot port.

TECHNICAL DATA

CATALOG NUMBER	PRESSURE RATIO	MAXIMUM OUTLET PRESSURE (PSI)	DISPL. PER CYCLE (IN. ³)	CONNECTIONS		WEIGHT (LBS.)
				INLET	OUTLET	
GX35	1:36	5,220	6.71	1	3/8	53
GX60	1:66	8,700	3.97	1	3/8	
GX100	1:117	15,225	2.20	1	3/8	
GX170	1:177	15,225	2.20	1	3/8	66

NOTE: All connections listed are FNPT unless otherwise noted.
Air drive inlet connection on all GX pumps is 3/4" FNPT.
Maximum allowable liquid temperature is 140°F.
Air section temperature rating: 0°F to 140°F.
²Viton is a registered trademark of E.I. DuPont de Nemours & Co., Inc.

DIMENSIONS (inches)



NOTE: ¹ Mounting hole dimensions.
Dimensions are subject to change. Consult factory.

FLOW CHART — GX SERIES

CATALOG NUMBER	SAMPLE AIR DRIVE PRESSURE (PSI)	OUTLET PRESSURE (PSI)								
		0	500	1000	2000	3000	4000	5000	7500	10000
GX35	60	1525	1400	1100	180					
	90	1525	1450	1360	635	150				
GX60	60	850	820	750	570	310				
	90	850	840	815	720	590	420	180		
GX100	60	470	465	460	410	360	280	210		
	90	470	465	460	455	430	390	350	220	
GX170	60	335	329	323	314	287	261	232	153	18
	90	335	332	330	329	319	308	293	254	183

FLOW RATE IN CUBIC INCHES PER MINUTE.
MAXIMUM AIR CONSUMPTION: 190 SCFM @ 90 PSI (WITH 0 PSI OUTLET).

FLOW RATES SHOWN ARE FOR 1-10 CST FLUIDS.

PPSF series pumps are rugged and designed for chemical service applications. These pumps are available as single acting pumps with single air drive head and distance piece which provides a separation between the liquid and air drive sections.

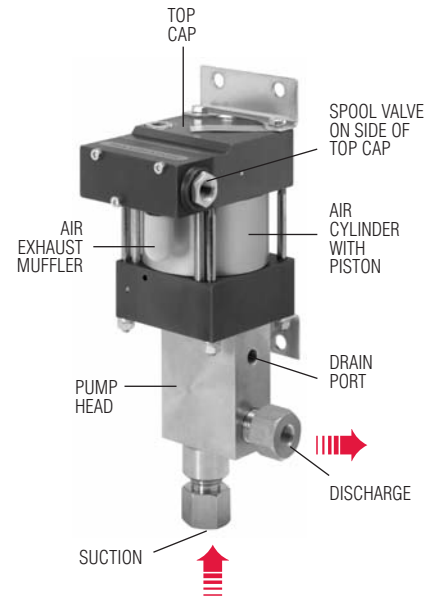
- PPSF pumps have stainless steel bodies and plungers.
- PPSF pumps have PTFE seals with Viton² O-rings.
- Pumps come standard with a bottom inlet.
For side inlet add – S.
- Maximum air drive pressure is 145 psi. PPSF pumps require less drive pressure because the pump is driven in both directions with no spring under the piston. This design reduces noise and provides less chance of cavitation.
- Minimum air drive pressure 15 psi.
- For air control option ... add – ACM to PPSF catalog number.

TECHNICAL DATA

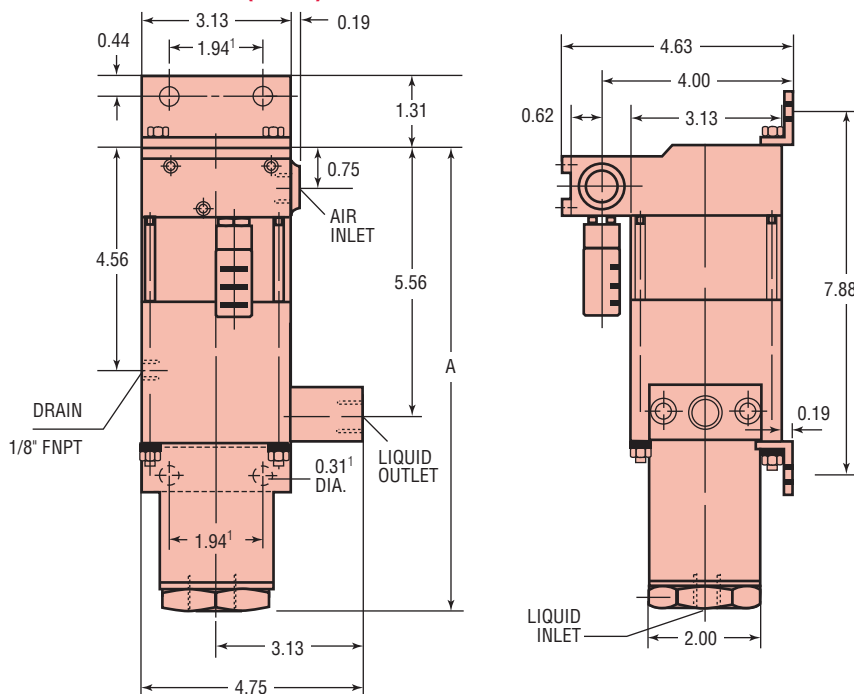
PPSF Single Air Drive Head and Distance Piece

CATALOG NUMBER	PRESSURE RATIO	MAXIMUM OUTLET PRESSURE (PSI)	DISPL. PER CYCLE (IN. ³)	CONNECTIONS		WEIGHT (LBS.)
				INLET	OUTLET	
PPSF4	1:4	580	1.86	1	1/2	15
PPSF8	1:9	1,305	0.90	3/4	1/2	
PPSF12	1:14	2,030	0.57	3/4	1/2	
PPSF22	1:28	4,060	0.28	3/8	1/4	8
PPSF37	1:46	6,670	0.17	3/8	1/4	
PPSF72	1:86	12,470	0.09	3/8	1/4	
PPSF111	1:130	14,500	0.06	3/8	1/4	

NOTE: Air drive inlet connection on all PPSF pumps is 1/4" FNPT.
All connections listed are FNPT unless otherwise noted.
Maximum allowable liquid temperature is 140°F.
Air section temperature rating: 0°F to 140°F.



DIMENSIONS (inches)



NOTE: ²Viton is a registered trademark of E.I. DuPont de Nemours & Co., Inc.

NOTE: ¹ Mounting hole dimensions. Dimensions are subject to change. Consult factory.

CATALOG NUMBER	A
PPSF4	9.81
PPSF8	9.50
PPSF12	9.50

PPSF
SERIES
PRESSURES FROM
60 TO 14,500 PSI

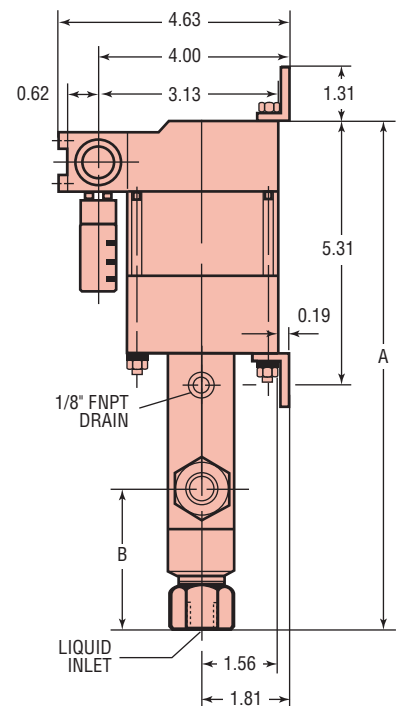
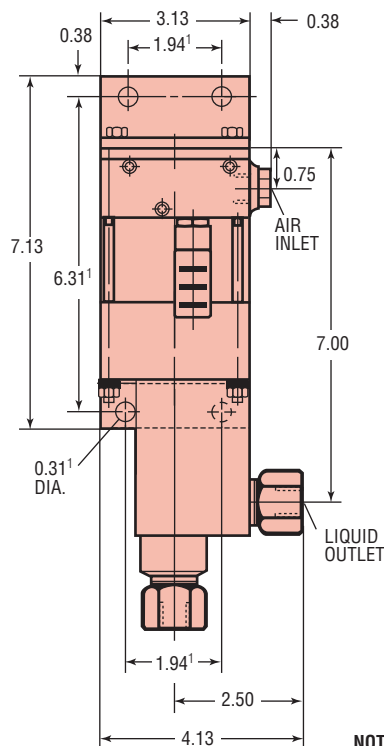
PPSF

SERIES

PRESSURES FROM
60 TO 14,500 PSI

CATALOG NUMBER	A	B
PPSF22	9.81	2.75
PPSF37	9.69	2.69
PPSF72	9.69	2.62
PPSF111	9.69	2.63

DIMENSIONS (inches) *Cont.*



NOTE: ¹ Mounting hole dimensions.
Dimensions are subject to change. Consult factory.

FLOW CHART — PPSF Series

CATALOG NUMBER	SAMPLE AIR DRIVE PRESSURE (PSI)	OUTLET PRESSURE (PSI)							
		0	500	1500	3000	5000	7500	10000	14500
PPSF4	60	885							
	90	905							
	120	915	50						
PPSF8	60	422	50						
	90	430	240						
	120	433	325						
PPSF12	60	272	160						
	90	275	218						
	120	280	245	53					
PPSF22	60	132	110	22					
	90	136	126	82					
	120	138	132	105	30				
PPSF37	60	81	74	47					
	90	83	80	68	37				
	120	85	82	75	56	15			
PPSF72	60	43	42	37	22	3			
	90	44	43	41	36	24	3		
	120	45	45	43	39	33	21	4	
PPSF111	60	28	27	26	20	12	2		
	90	29	28	27	26	22	16	8	
	120	30	29	28	27	25	21	16	3

FLOW RATE IN CUBIC INCHES PER MINUTE.

MAXIMUM AIR CONSUMPTION: 20 SCFM @ 90 PSI (WITH 0 PSI OUTLET).

FLOW RATES SHOWN ARE FOR 1-10 CST FLUIDS.

LSF series pumps are rugged and designed for chemical service applications. These pumps are available as single acting pumps with single or double air drive head and distance piece which provides a separation between the liquid and air drive sections.

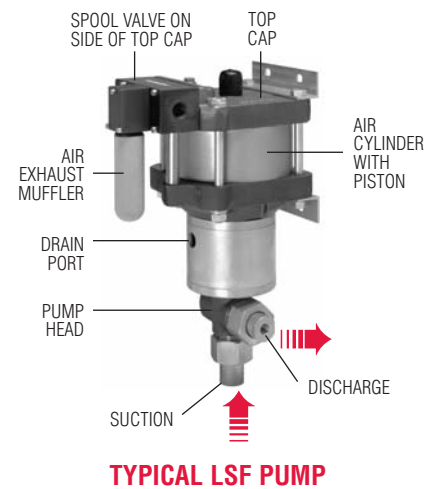
- LSF pumps have stainless steel bodies and plungers.
- LSF pumps have PTFE seals with Viton² O-rings.
- Pumps come standard with a bottom inlet.
For side inlet add – S.
- Maximum air drive pressure 145 psi.
- Minimum air drive pressure 15 psi.
- For air control option ... add – ACP to LSF catalog number.

LSF
SERIES
PRESSURES FROM
165 TO 23,200 PSI

TECHNICAL DATA

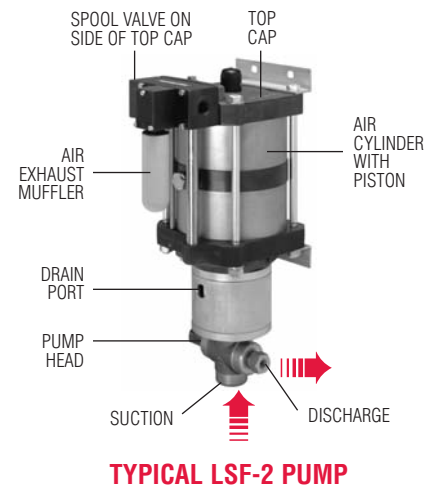
LSF Single Air Drive Head and Distance Piece

CATALOG NUMBER	PRESSURE RATIO	MAXIMUM OUTLET PRESSURE (PSI)	DISPL. PER CYCLE (IN. ³)	CONNECTIONS		WEIGHT (LBS.)
				INLET	OUTLET	
LSF10	1:11	1,595	5.49	1	1/2	44
LSF15	1:16	2,320	3.78	1	1/2	
LSF25	1:28	4,060	2.15	1/2	1/2	42
LSF35	1:40	5,800	1.49	1/2	1/2	
LSF60	1:63	9,135	0.94	1/2	1/2	
LSF100	1:113	15,225	0.54	1/2	1/2	40
LSF150	1:151	21,025	0.40	1/2	9/16-18	
LSF250	1:265	23,200	0.23	1/2	9/16-18	



LSF Double Air Drive Head and Distance Piece

CATALOG NUMBER	PRESSURE RATIO	MAXIMUM OUTLET PRESSURE (PSI)	DISPL. PER CYCLE (IN. ³)	CONNECTIONS		WEIGHT (LBS.)
				INLET	OUTLET	
LSF10-2	1:20	3,190	5.49	1	1/2	50
LSF15-2	1:30	4,640	3.78	1	1/2	
LSF25-2	1:54	8,120	2.15	1/2	1/2	
LSF35-2	1:78	11,600	1.49	1/2	1/2	
LSF60-2	1:118	15,000	0.94	1/2	1/2	
LSF100-2	1:200	23,200	0.54	1/2	9/16-18	



NOTE: Air drive inlet connection on all **LSF** pumps is 1/2" FNPT.
Air pilot connection on all **LSF** pumps is 1/8" FNPT.
All connections are FNPT unless otherwise noted.
The 9/16 – 18 is a 1/4" O.D. tubing, high pressure coned and threaded connection.
Maximum allowable liquid temperature is 140°F.
Air section temperature rating: 0°F to 140°F.

NOTE: ²Viton is a registered trademark of E.I. DuPont de Nemours & Co., Inc.

CHEMICAL SERVICE

Single Air Drive Head and Distance Piece

CATALOG NUMBER	A	AS	B	C	D	E	F
LSF10–LSF15	16.12	13.63	12.13	5.06	6.88	7.81	4.38
LSF25–LSF35	15.50	13.63	12.13	3.63	6.88	7.81	3.19
LSF60–LSF100 LSF150	16.00	14.06	12.25	3.44	6.88	7.81	3.81
LSF250	15.69	14.13	12.25	4.00	6.88	7.81	3.31

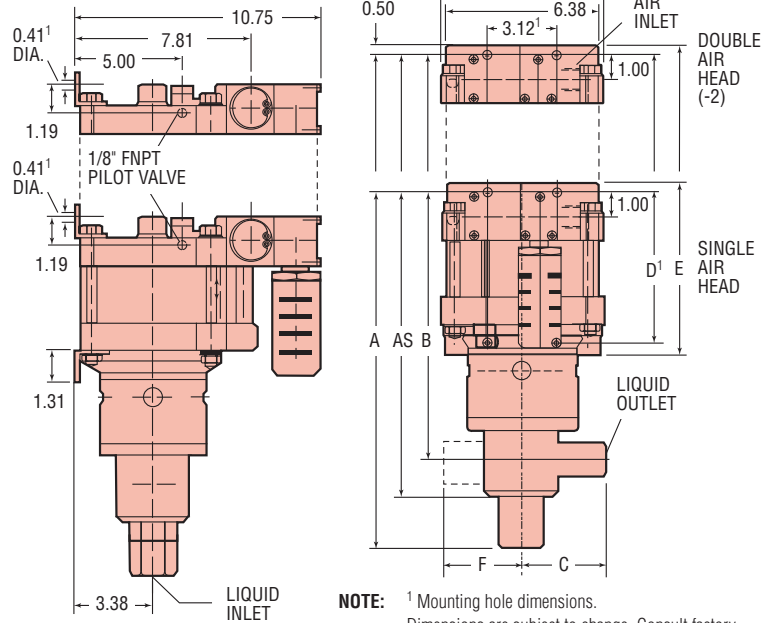
Double Air Drive Head and Distance Piece

CATALOG NUMBER	A	AS	B	C	D	E	F
LSF10-2–LSF15-2	20.06	17.56	16.13	5.06	10.81	11.75	4.38
LSF25-2–LSF35-2	19.44	17.56	16.13	3.63	10.81	11.75	3.19
LSF60-2	19.94	18.00	16.25	3.44	10.81	11.75	3.81
LSF100-2	19.94	18.00	16.25	3.44	10.81	11.75	3.31

FLOW CHART — LSF Series

CATALOG NUMBER	SAMPLE AIR DRIVE PRESSURE (PSI)	OUTLET PRESSURE (PSI)								
		0	500	1500	3000	5000	7500	10000	15000	23200
LSF10	60	1100	350							
	90	1125	790							
	120	1150	915							
LSF15	60	775	540							
	90	790	650							
	120	800	705	280						
LSF25	60	435	365	60						
	90	445	410	265						
	120	450	425	340	90					
LSF35	60	300	270	150						
	90	305	290	240	95					
	120	310	300	270	180					
LSF60	60	192	182	145	45					
	90	195	190	173	130	43				
	120	200	195	185	158	105	10			
LSF100	60	108	105	97	78	37				
	90	110	108	105	95	78	47	5		
	120	113	110	107	103	92	73	48		
LSF150	60	81	79	76	66	49	19			
	90	83	82	80	75	67	53	35		
	120	84	83	82	78	73	66	55	25	
LSF250	60	46	45	44	42	37	26	20	2	
	90	47	46	45	44	43	40	36	26	
	120	48	47	47	46	45	43	41	34	20
LSF10-2	60	880	720							
	90	890	800	350						
	120	900	840	570						
LSF15-2	60	615	550	200						
	90	625	575	410						
	120	630	600	500	225					
LSF25-2	60	345	330	265	60					
	90	350	335	300	208	15				
	120	355	345	320	265	150				
LSF35-2	60	240	230	210	115					
	90	242	232	225	190	115				
	120	245	235	230	210	170	95			
LSF60-2	60	150	148	145	120	70	2			
	90	155	152	147	136	117	80	33		
	120	157	154	152	145	133	112	82	8	
LSF100-2	60	86	84	82	77	72	53	30		
	90	87	86	84	82	78	70	61	36	
	120	89	88	86	84	82	77	72	57	13

DIMENSIONS (inches)



High Pressure Relief Valve

PRESSURES FROM 1,000 TO 10,000 PSI

MT10RV

- Gas or liquid
- Stainless steel
- Externally adjustable
- Can be mounted in line

TECHNICAL INFORMATION

Materials

- *Outlet Gland*Stainless Steel
- *Adjustment Gland*Stainless Steel
- *Seat*Nylon
- *Seals*PTFE/EPDM

Sizing Data

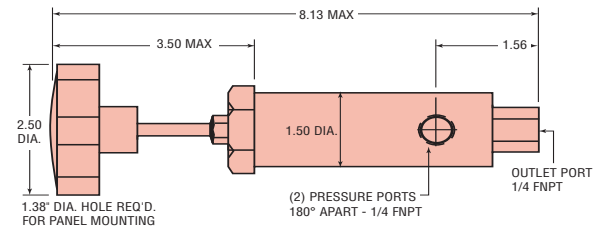
- *Orifice*0.07" DIA.
- *Cv*0.12

Connections

- *Inlet or Thru Ports* . . . 1/4" FNPT
- *Outlet/Vent*1/4" FNPT



DIMENSIONS (inches)



NOTE: Dimensions are subject to change. Consult factory.

Pump Cycle Counters

To order: add suffix to pump PN eg. PP012-CCW

- *CCP*Panel mount, 0 – 999,999 max. cycles, 1.03" hg x 2" wd hole
- *CCW*Wall mount, 0 – 999,999 max. cycles, 4.00" hg x 2" wd hole

Cycle counters come complete with plumbing to connect to unit. Specify model of pump or booster when ordering. Cycle counters are air actuated from the tappet valve exhaust port. Cycle counters are resettable.



Air Control Packages

Consisting of a filter, regulator with gauge, shut-off valve and required fittings

- *ACM*For all LC, PPO, PP, PP-HL & PPSF pumps, and MPLV air amplifiers
- *AC*For all S pumps
- *ACP*For all L, LO, L-D, S-D, & LSF pumps, DLA & GPLV air amplifiers, and DLE gas boosters
- *ACG*For all GX and GXO pumps



Dry Air Spool

For severe duty service

In applications where very dry air or nitrogen is used to drive Maximator pumps or boosters there is a **new spool seal option** available to provide longer duty between maintenance.

This **Dry Air Spool (DAS)** option should be considered for extreme operating conditions involving air or gas drive mediums below 0°F. dewpoint, and similarly, very cold climate applications (-40°C.).

This new design can be retrofitted to existing pumps and boosters as it only involves the spool, spool sleeve, and seals. The spool block remains the same. Be sure to use an appropriate tool to pull the spool sleeve! Minimum air drive with this option is 30 psig.

To order with a pump simply add – DAS to model number. To retrofit to an existing pump, order "Dry Air Spool" and specify the pump model and serial number.



PORTABLE SYSTEMS

Portable systems are ideal for generating elevated hydraulic or water pressures, using only shop air, at a variety of locations throughout a facility. They are completely portable and require only a shop air line to operate if the reservoir option is selected.

A variety of pressure ranges are available to fit your specific requirements, from low pressures of 1,000 psi to high pressures of 60,000 psi. You may choose from a number of options to complete the test system best suited for your application.



Power Packs

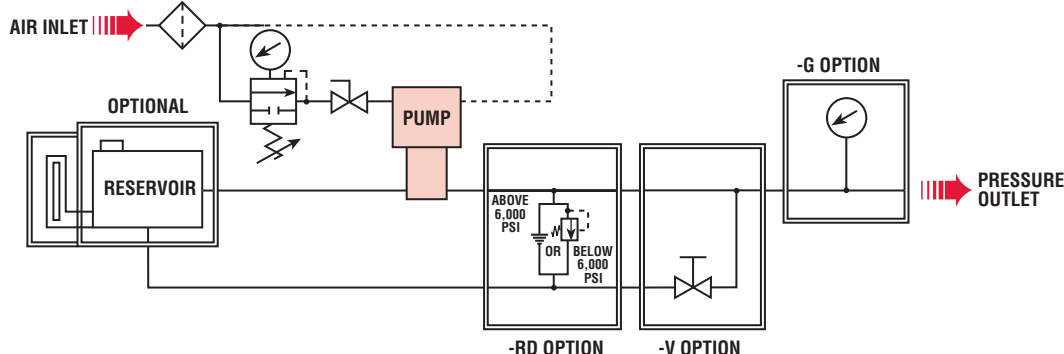
OIL OR WATER

- Lightweight, portable
- Economical hydraulic power
- Totally self-contained package

ORDERING INFORMATION

MTTP	03	-	0	-	PP0	-	1G	-	G
Max. Req'd Pressure			Service		Pump		Reservoir		Options
01 1,000 psi			O Oil		PP0, S or LO Oil		N None, plate mounted		G Outlet gauge
02 2,000 psi			W Water		PP or L Water		1G 1 gallon S.S.		V Vent valve
03 3,000 psi							2G 2 gallon S.S.		RD Relief device
05 5,000 psi							8G 8 gallon S.S.		Call to discuss your specific application.
10 10,000 psi							1.5G 1.5 gallon carbon steel		
60 60,000 psi									

FLOW SCHEMATIC



Test Carts

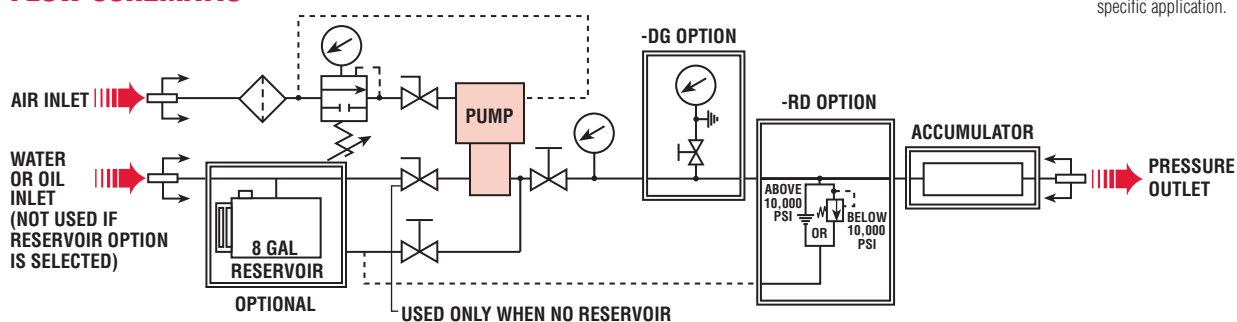
OIL OR WATER

- Hydrostatic testing
- Hydraulic power
- Cycle testing
- Leak Testing

ORDERING INFORMATION

MTTC	10	-	0	-	LO	-	8GP	-	RD
Max. Req'd Pressure			Service		Pump		Reservoir		Options
01 1,000 psi			O Oil		PP0, S, LO or GXO Oil		N None		ACC Accumulator
03 3,000 psi			W Water		PP, L or GX Water		2G 2 gallon S.S.		DG Dual gauges
05 5,000 psi							8GP 8 gallon polyethylene		DV Directional control valve
10 10,000 psi							8GSS 8 gallon S.S.		RD Relief device
60 60,000 psi									Call to discuss your specific application.

FLOW SCHEMATIC



Pump Skids

OIL OR WATER

- Compact, complete packaged systems
- Standard powder coated or stainless steel frame

Pump skids are compact systems with most components mounted within the boundaries of the frame. The systems can be built for water or oil service and have a control panel to contain all gauges and valves. A variety of pressure ranges and flows are available, for testing components, ranging from 500 psi to 60,000 psi. These systems can be supplied with a reservoir or a city water valved inlet. Reservoirs come with a fill/breather cap, liquid level sight gauge and drain connection.

ORDERING INFORMATION*

MTPS	05	-	W	-	PP72	-	2G	-	RD
Pressure			Service		Pump		Reservoir		Options
01	1,000 psi		O Oil		PPO, S or LO Oil		N None		ACC Accumulator
03	3,000 psi		W Water		PP, L or GX Water		2G 2 gallon S.S.		DG Dual gauges
05	5,000 psi						8G 8 gallon S.S.		DV Directional control valve
10	10,000 psi								RD Relief device
15	15,000 psi								Call to discuss your specific application.
20	20,000 psi								
30	30,000 psi								
60	60,000 psi								

FLOW SCHEMATIC (See Test Carts)



Test Benches

OIL, WATER, AIR OR GAS

- Hydrostatic testing
- Cycle/fatigue testing
- Burst testing
- Leak Testing

MAXPRO test benches are designed for durability, ease of use and accessibility. These test benches can be equipped for use with oil, water, air, gas or any combination of test medium. The same test bench could be set up for hydrostatic testing with water and/or leak testing with gas.

MAXPRO test benches can be provided with manual control or push button PLC control to handle your specific application.

Test chambers can be included and can be horizontal or vertical. When specifying a test bench that is to include a test chamber with a windowed door, please specify the required chamber size.

ORDERING INFORMATION*

MTTB	10	-	W	-	G	-	M	-	L	-	N	-	DLE	-	RS	-
Pressure			Service								Air Amplifier				Options	
05	5,000 psi		O Oil								GPLV 2:1 amplifier				RI Remote operating isolation valve	
10	10,000 psi		W Water								DLA 5:1 and 15:1 amplifiers				RS Remote operating pump shut-off valve	
15	15,000 psi		A Air to 5,000 psi maximum								N None				RV Remote operating vent valve	
20	20,000 psi		G Gas to 21,000 psi maximum								Liquid Pump				T Pressure transducer specify 0-10V or 4-20 ma output	
30	30,000 psi		N None - for second service								LO Oil pumps				DP Digital pressure indicator	
60	60,000 psi										L Water pumps				PI Peak pressure indicator	
											N None					
Operation											Gas Booster					
M Manual											DLE Gas booster					
R Push button											N None					



* The photos and ordering information are shown to indicate capabilities and options. Each system is custom designed to meet specific operating requirements.

OTHER PRODUCTS

Valves, Fittings & Tubing

- Highest quality for superior product performance
- Standard metals of stainless steel
- Pressures to 152,000 PSI



Air Amplifiers & Systems

- Air driven to 4,350 PSI
- Deliver increased air pressure to shop floor equipment and work stations
- Require no electrical power
- Single or double acting models



Gas Boosters & Systems

- Air driven to 21,750 PSI
- Ideal for gas salvage
- Units are contaminant free
- For use with a variety of gases
- Require no lubrication or electrical power



Repair Service Available

- Guaranteed quality workmanship
- Cost effective quick turnaround
- Use original manufacture parts
- Factory support



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