

How to order SC Air Operated Liquid Pumps

1. Available Air pressure and Flow Rate

For optimum performance, the maximum recommended air pressure for continuous duty is 100 psig for all pumps and power units. Air - drive pressure up to 150 psig may be used intermittently.

**Notice: Some Charts and Diagrams may need to be enlarged to see fine detail.*

2. Required Hydraulic Output pressure and Flow Rate

We recommend that SC pumps be selected to deliver the required hydraulic flow rate and output pressure with 70 psig of air-drive pressure. This will provide a safety factor if air-drive pressure decreases for any reason. For hydraulic pressure, see "Approximate Air to Hydraulic Pressure Ratios -- Static Conditions". For hydraulic flow, see "Hydraulic Pump Approximate Rate of Discharge".

3. Type of Fluid Being Pumped

The type of fluid being pumped is an important consideration in the selection of a pump. The materials of the hydraulic assembly and compounds of the hydraulic seals are determined by the specific fluid. Standard SC pumps are available for oil, water and most benign fluids. The standard hydraulic seal compound is Nitrile (Buna-N) with Tetrafluoroethylene (Teflon back up rings.) Pumps and power units can be purchased for other types of fluids. Consult the factory for recommended seal combinations.

**Note: hydraulic seal performance and life will be effected to some degree with non-lubricating fluids, such as water, than with lubrication type fluids.*

4. Acceptable Size and Weight

For some applications, the unit's physical size and weight may be an important consideration.

*** 10-4 Series**

When operating from 0 to rated hydraulic pressure, air consumption will be approximately 14 scfm of free air to 100-psi input. At lower air pressures and higher hydraulic pressures air consumption will be reduced proportionately to flow rates indicated.

*** 10-5 Series**

When operating from 0 to rated hydraulic pressure, air consumption will be approximately 28 scfm of free air at 100-psi input. At lower air pressures and higher hydraulic pressures air consumption will be reduced proportionately to flow rates indicated.

*** 10-6 Series**

When operating from 0 to rated hydraulic pressure, air consumption will be approximately 56 scfm of free air at 100-psi input. At lower air pressures and higher hydraulic pressures air consumption will be reduced proportionately to flow rates indicated.

PRESSURE RATIO CHART

10-4 SERIES			10-5 SERIES			10-6 SERIES		
Model Number		PRESSURE RATD	Model Number		PRESSURE RATD	Model Number		PRESSURE RATD
OLD	REF.		OLD	REF.		OLD	REF.	
0.25	003	5	0.24	003	5	.35QR	003	5
0.5	005	10	0.5	005	10	.5QR	005	10
1	010	15	0.65	007	12	1	010	20
1.5	015	30	1	010	20	1.5	015	25
2	020	35	1.5	015	25	2	020	35
3	030	55	1.75	018	30	3	030	55
5	050	100	2	020	35	5	050	95
8	080	140	3	030	55	8	080	145
12.5	125	220	4	040	70	10	100	180
			4.5	045	85	15	C151	240
			6	060	105	20	C201	330
			8	080	140	30	301	460
			10	100	195	40	402	740
			16	160	280			
			25	250	440			
			35	350	555			

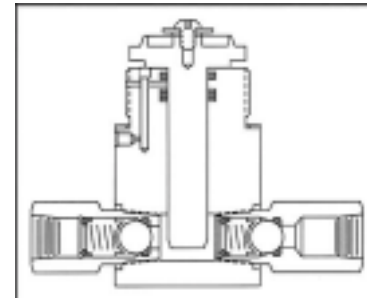
Special and Modified Pumps

10-4, 10-5, and 10-6 Series

A combination of any of the modifications shown can be supplied upon request. Write or call the factory for information and prices.

. "A" Modification *

The "A" modification utilizes dual seals in the hydraulic assembly with a bleed port between the seals to atmosphere, providing a visual indication of hydraulic seal leakage. Used where contamination of the air motor from the hydraulic fluid being pumped is objectionable.



. "K" Modification *

The "K" modification utilizes a special air piston in the air motor assembly which decreases the stroke of the pump, thus minimizing the internal forces and increasing air motor service life. Used in applications exhibiting rapid pressure losses, such as burst pressure testing.

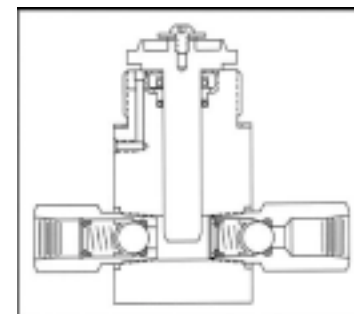


. "B" Models *

The "B" models have a bottom inlet connection for convenient tank top installation.

. "H" Models *

The "H" models utilize special packing in the hydraulic assembly for maximum performance where hydraulic fluid media is contaminated with foreign matter, providing for a much greater life expectancy from the hydraulic seals than with standard "O" ring seals. "A" modification is standard on all "H" models.



. "R" Models *

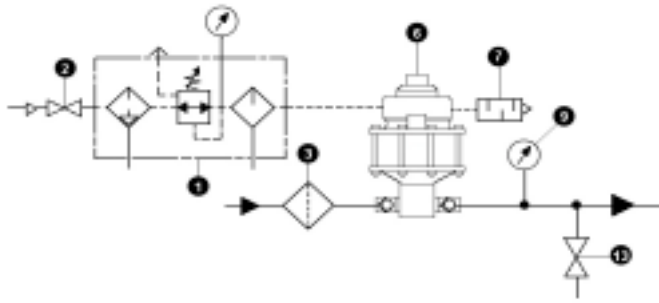
The "R" models are furnished with an isolator attachment which prevents the hydraulic piston from retracting into the air motor during operation, providing for 100% non contamination of the hydraulic assembly from the air motor. The isolator attachment also acts as a heat barrier.

* Not available in 10-4 Series

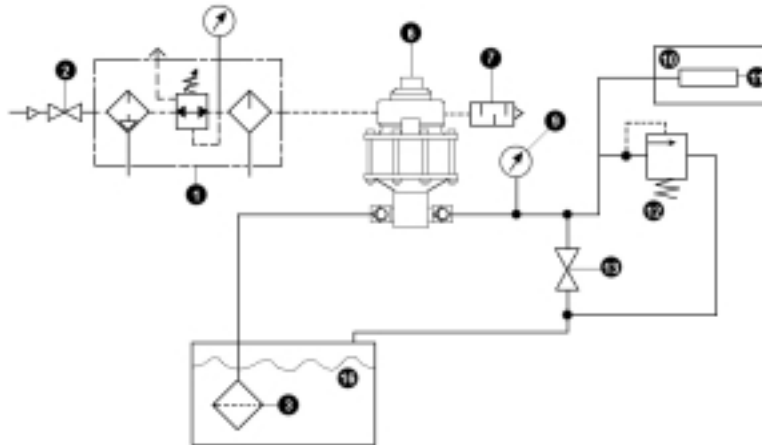
LEGEND

- | | | |
|---|---|-------------------------|
| 1. Filter, regulator, lubricator assembly | 7. Air exhaust muffler | 13. Fluid bleed valve |
| 2. Air shut off valve | 8. Pressure unloading valve, air operated | 14. Hydraulic press |
| 3. Hydraulic filter | 9. Hydraulic pressure gauge | 15. Check valve |
| 4. Manual 4 way air valve | 10. Test chamber | 16. Hydraulic reservoir |
| 5. Air sequence valve | 11. Test object | |
| 6. SC air operated hydraulic pump | 12. Pressure relief valve | |

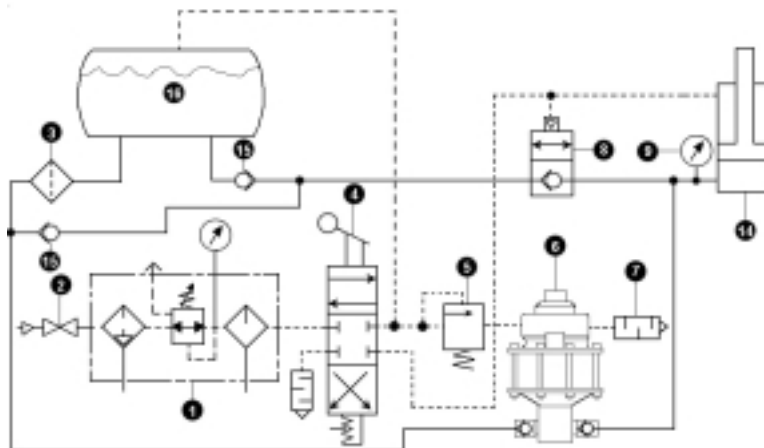
TYPICAL CIRCUIT FOR INSTALLATION



TYPICAL CIRCUIT FOR STATIC PRESSURE TEST

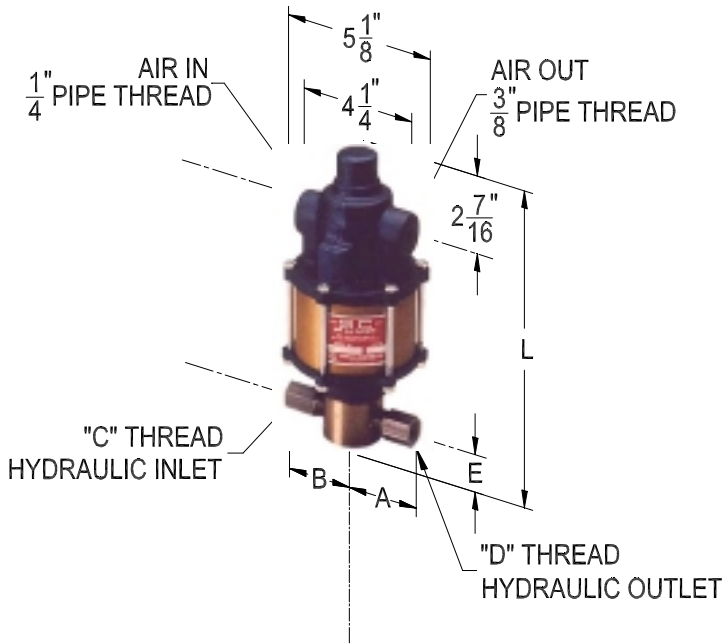


TYPICAL CIRCUIT FOR OPERATION OF HYDRAULIC PRESS



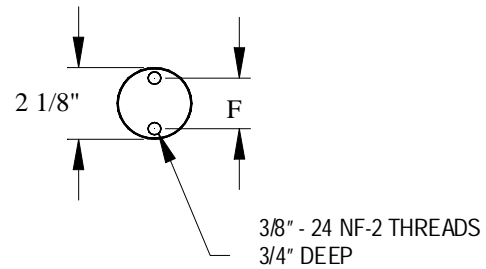
10-4 Series

Specifications and Installation Data



Mounting may be in any position, vertical preferred. When mounting is in an inverted position, a drain cock should be provided to drain off any liquid that may accumulate in the pilot valve air chamber.

10-4 Series pumps have a 4" diameter air piston and a 1 1/4" stroke.



10-4 Series Mounting Dimensions (Inches)

10-4 Series Model No.	L	A	B	C NPTF	D NPTF	E	F
-003	11 3/8	2 7/16	3	1/2	3/8	13/16	1 1/2
-005	11 3/16	2 7/16	3	1/2	3/8	13/16	1 1/2
-010 and -015	11 1/16	2 7/16	2 7/16	3/8	3/8	13/16	1 1/2
-020 and -030	10 1/16	2 7/16	2 7/16	3/8	3/8	13/16	1 1/2
-050 thru -125	10 1/2	2 3/8	2 5/16	3/8	3/8	13/16	1 1/2

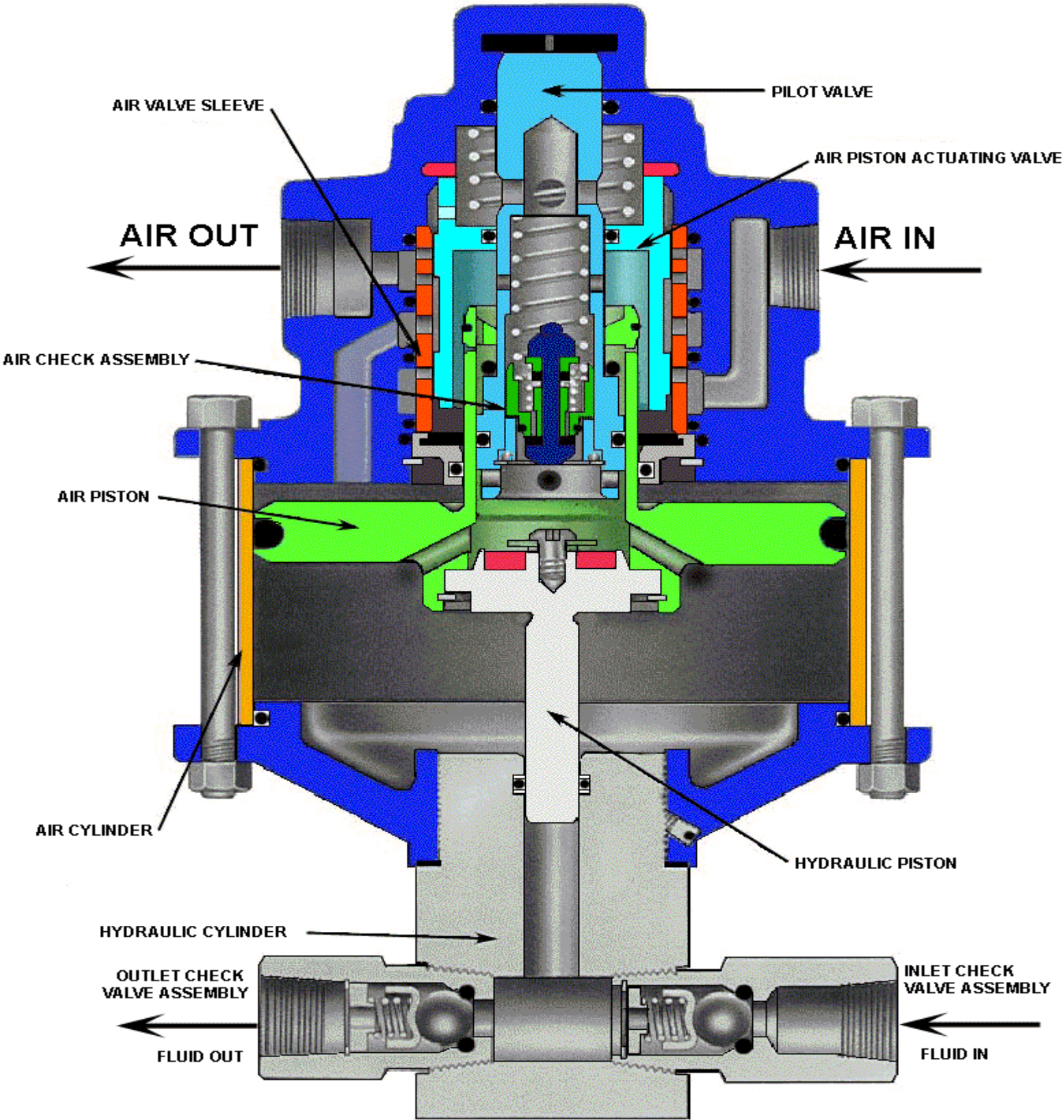
10-4 Series Approximate Air to Hydraulic Pressure Ratios Static Conditions

10-4 Series Model No.	Air Pressure (PSI)									
	10	20	30	40	50	60	70	80	90	100
-003	35	90	145	200	250	305	360	415	465	515
-005	80	180	280	375	475	575	675	770	870	965
-010	160	340	520	700	880	1,060	1,240	1,440	1,600	1,800
-015	250	550	850	1,150	1,425	1,725	2,000	2,300	2,575	2,850
-020	300	675	1,050	1,450	1,800	2,175	2,525	2,875	3,225	3,550
-030	500	1,040	1,620	2,200	2,750	3,340	3,850	4,475	5,000	5,550
-050	950	1,850	2,900	3,800	4,850	5,900	6,875	7,900	8,900	9,900
-080	1,300	2,700	4,150	5,700	7,100	8,600	9,900	11,200	12,600	14,000
-125	2,100	4,400	6,750	8,750	11,250	13,250	15,250	17,500	19,750	22,000

10-4 Series Measurements

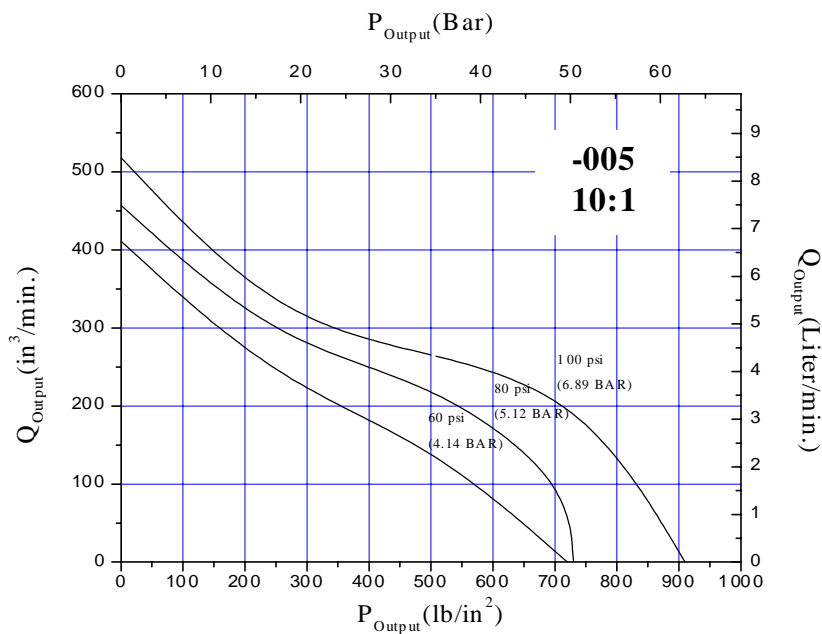
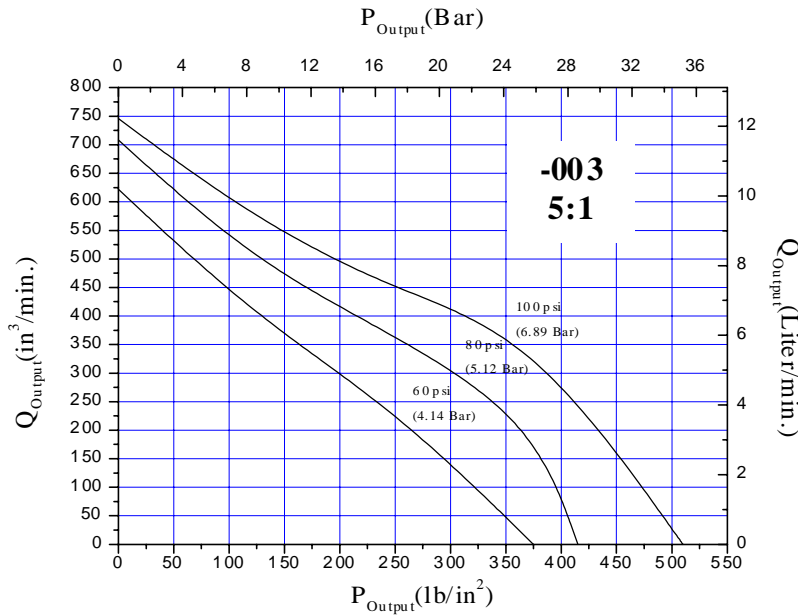
10-4 Series Model No.	Hydraulic Piston Diameter (Inches)	Hydraulic Piston Area (Square Inches)	Volume per Stroke (Cubic Inches)
-003	1.625	2.07	2.59
-005	1.1875	1.11	1.39
-010	.875	.601	.751
-015	.6875	.371	.464
-020	.625	.307	.384
-030	.500	.196	.245
-050	.375	.110	.138
-080	.3125	.077	.096
-125	.250	.049	.061

Liquid Pump Cut-a-way



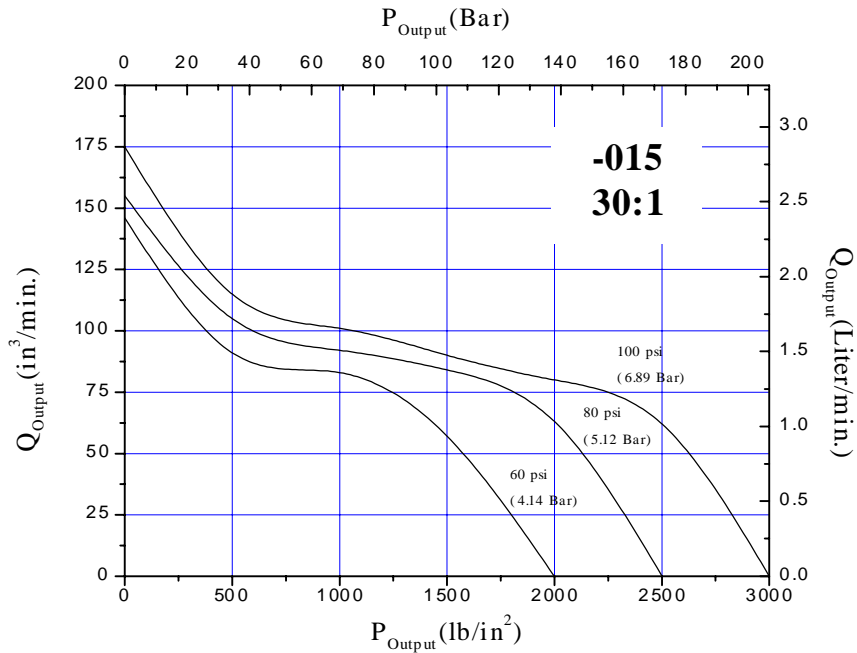
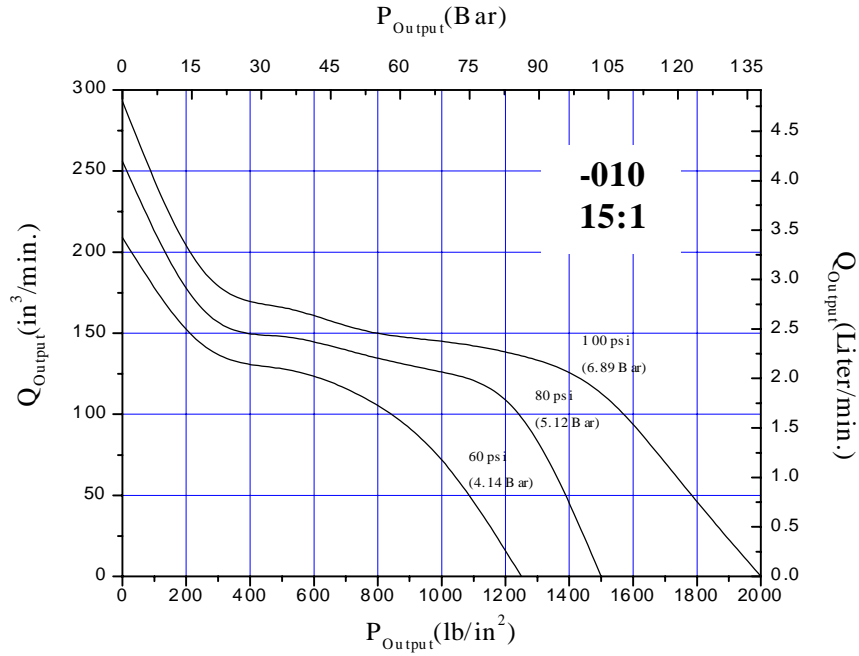
10-4 Series

APPROXIMATE RATE OF DISCHARGE



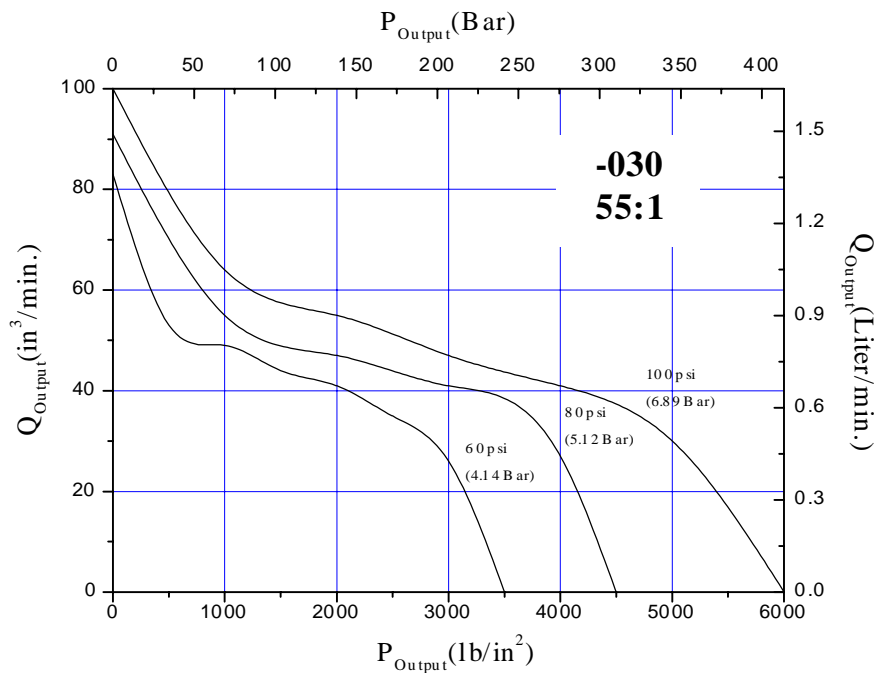
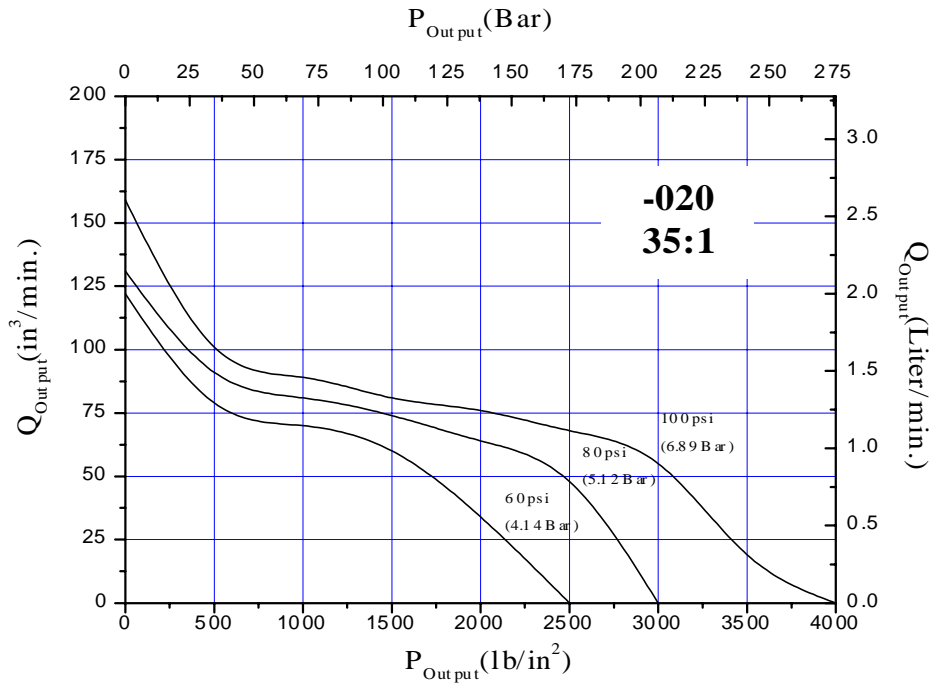
10-4 Series

APPROXIMATE RATE OF DISCHARGE



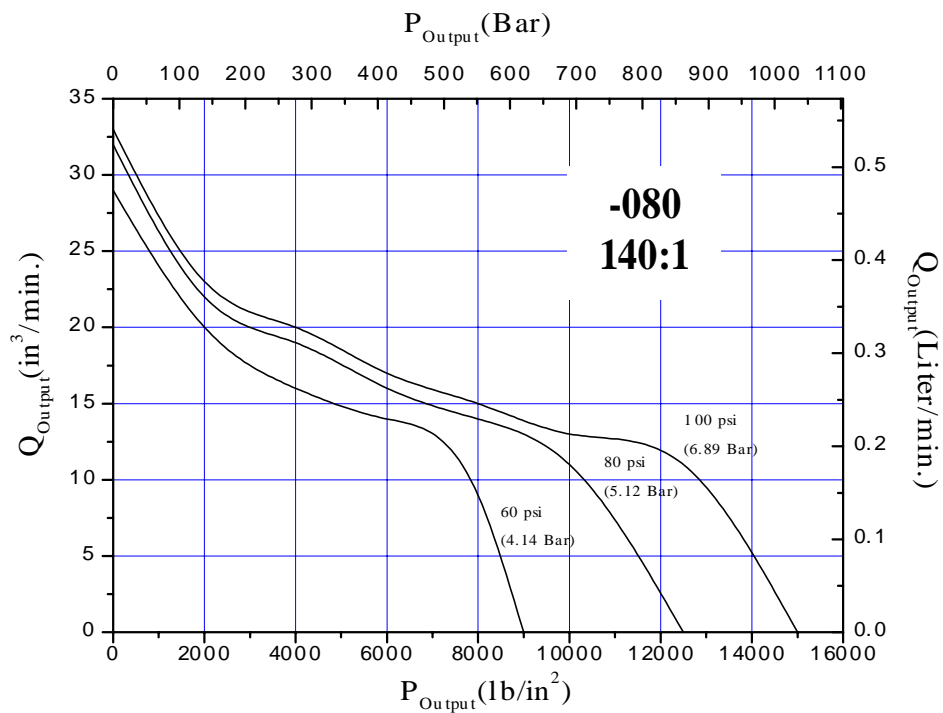
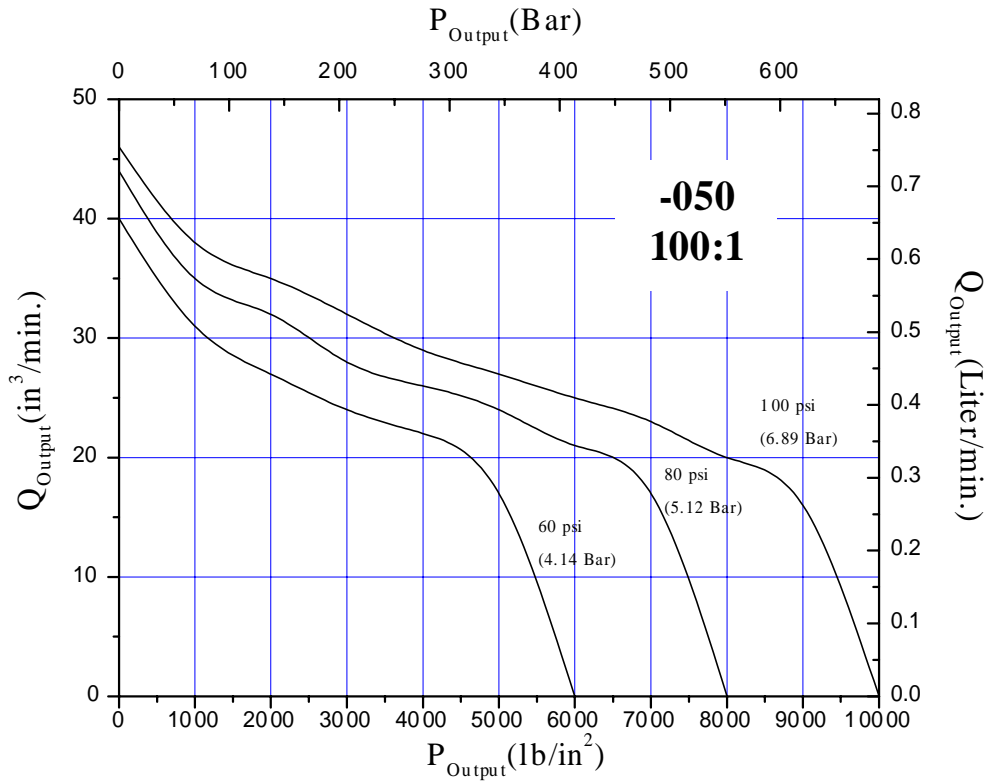
10-4 Series

APPROXIMATE RATE OF DISCHARGE



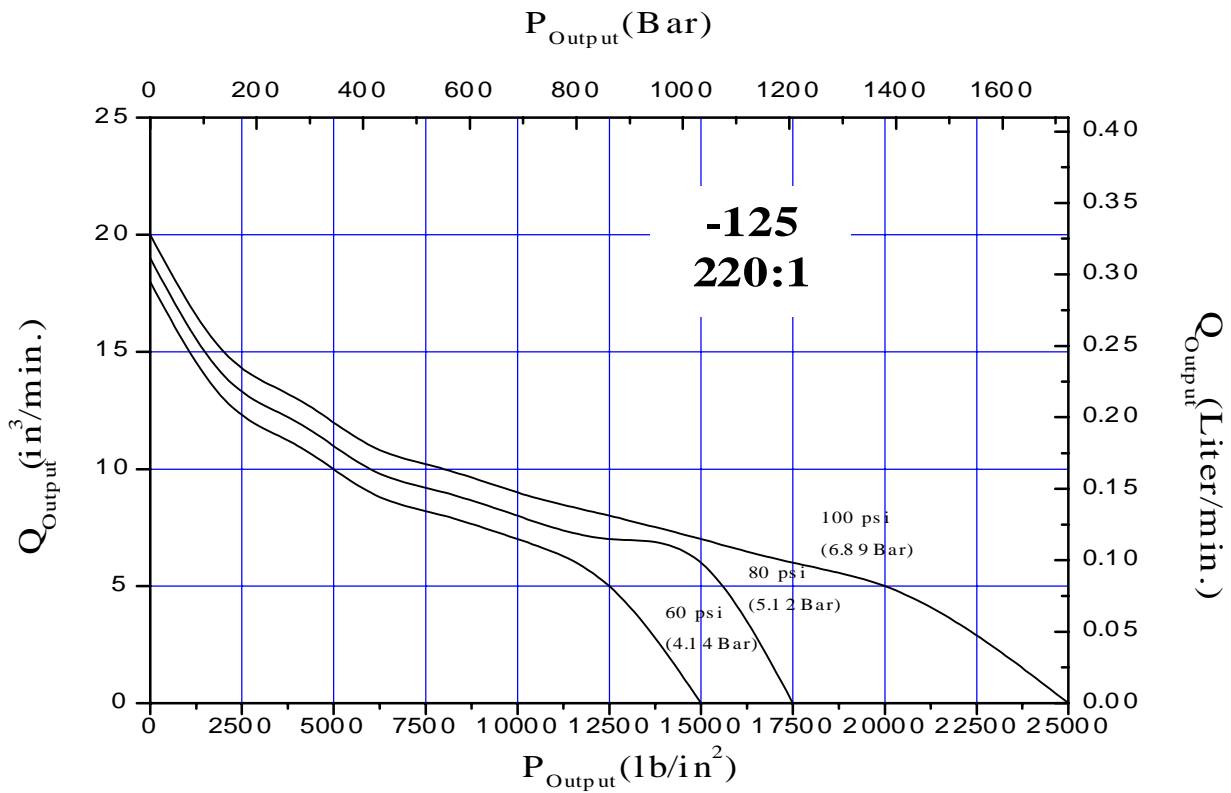
10-4 Series

APPROXIMATE RATE OF DISCHARGE



10-4 Series

APPROXIMATE RATE OF DISCHARGE



If 10-4 Series Hydraulic Pump Approximate Rate of Discharge (CIPM) is lower than your requirements, refer to 10-5 Series Hydraulic Pump Approximate Rate of Discharge (CIPM) charts.