

Lube Piping Specifications

Use these guidelines for selecting line sizes, tubing wall thicknesses and piping schedules for lubrication distribution systems. Air and water recommendations are for supply of air/water hose reels or for supply of air to pumps. Except as noted, maximum pressures shown represent the fluid pressure at the pump outlets when connected to their highest rated air supply pressure.

MOTOR OIL, GEAR OIL, ATF 0-200 FT			TUBING		PIPE	
PUMP	RATIO	MAX PRESSURE	OD	WALL	SIZE	WALL
LYNX®	1:1	120 psi (8 bar)	3/4"	0.025	3/4"	SCH 40
LYNX®	3:1	490 psi (34 bar)	3/4"	0.025	3/4"	SCH 40
LYNX® HD	5:1	760 psi (52 bar)	3/4"	0.025	3/4"	SCH 40
Panther™	3:1	490 psi (34 bar)	3/4"	0.025	3/4"	SCH 40
Panther™	5:1	760 psi (52 bar)	3/4"	0.025	3/4"	SCH 40
Tiger™	6:1	870 psi (60 bar)	1"	0.035	1"	SCH 40
Lion™ 450	3:1	540 psi (37 bar)	3/4"	0.035	3/4"	SCH 40
Lion™ 450	6:1	1,080 psi (74 bar)	3/4"	0.035	3/4"	SCH 40
Lion™ 450	10:1	1,800 psi (124 bar)	3/4"	0.049	3/4"	SCH 40
Lion™ 600	6:1	1,050 psi (73 bar)	3/4"	0.035	3/4"	SCH 40
Lion™ 600	12:1	2,160 psi (149 bar)	3/4"	0.065	3/4"	SCH 40

MOTOR OIL, GEAR OIL, ATF OVER 200 FT			TUBING		PIPE	
PUMP	RATIO	MAX PRESSURE	OD	WALL	SIZE	WALL
LYNX®	1:1	120 psi (8 bar)	N/A	N/A	N/A	N/A
LYNX®	3:1	490 psi (34 bar)	N/A	N/A	N/A	N/A
LYNX® HD	5:1	760 psi (52 bar)	1"	0.035	1"	SCH 40
Panther™	3:1	490 psi (34 bar)	1"	0.035	1"	SCH 40
Panther™	5:1	760 psi (52 bar)	1"	0.035	1"	SCH 40
Tiger™	6:1	870 psi (60 bar)	1 1/4"	0.042	1 1/4"	SCH 40
Lion™ 450	3:1	540 psi (37 bar)	1"	0.035	1"	SCH 40
Lion™ 450	6:1	1,080 psi (74 bar)	1"	0.049	1"	SCH 40
Lion™ 450	10:1	1,800 psi (124 bar)	1"	0.065	1"	SCH 40
Lion™ 600	6:1	1,050 psi (73 bar)	1"	0.049	1"	SCH 40
Lion™ 600	12:1	2,160 psi (149 bar)	1"	0.083	1"	SCH 40

GREASE 0-200 FT			TUBING		PIPE	
PUMP	RATIO	MAX PRESSURE	OD	WALL	SIZE	WALL
Panther®	50:1	6,000 PSI (414 bar)	5/8"	.125	1/2"	Sch 80
Lion™ 450	25:1	5,000 PSI (345 bar)	5/8"	.125	1"	Sch 40
Lion™ 450	40:1	8,000 PSI (551 bar)	5/8"	.125	1/2"	Sch 80
Lion™ 450	70:1	7,000 PSI (483 bar)	5/8"	0.095	1/2"	Sch 160
Lion™ 600	80:1	8,000 PSI (551 bar)	5/8"	0.095	1/2"	Sch 160

GREASE OVER 200 FT			TUBING		PIPE	
PUMP	RATIO	MAX PRESSURE	OD	WALL	SIZE	WALL
Panther®	50:1	5,000 PSI (345 bar)	3/4"	.125	3/4"	Sch 80
Lion™ 450	25:1	5,000 PSI (345 bar)	3/4"	.125	1 1/2"	Sch 80
Lion™ 450	40:1	8,000 PSI (551 bar)	3/4"	.109	3/4"	Sch 80
Lion™ 450	70:1	7,000 PSI (483 bar)	3/4"	.109	3/4"	Sch 160
Lion™ 600	80:1	8,000 PSI (551 bar)	3/4"	.109	3/4"	Sch 160

AIR & WATER 0-200 FT		TUBING		PIPE	
MAX PRESSURE		OD	WALL	SIZE	WALL
150 PSI (10 bar)		5/8"	.025	1/2"	SCH 40
250 PSI (17 bar)		5/8"	.025	1/2"	SCH 40
AIR & WATER 0-200 FT		TUBING		PIPE	
MAX PRESSURE		OD	WALL	SIZE	WALL
150 PSI (10 bar)		3/4"	.025	3/4"	SCH 40
250 PSI (17 bar)		3/4"	.025	3/4"	SCH 40

Additional notes:

- Line pressures for grease pumps are limited by the strength of steel tubing and grease hose working pressure ratings. Regulate air supply pressure for grease pumps to ("max pressure"/50) psi to avoid line pressure limits.
- Based on use of fully annealed steel tubing, 15,000 psi (1,034 bar) yield strength.
- Multiple air-operated pumps supplied by a common air line may require larger line sizes. Consult your Balcrank Representative for efficient size recommendations.
- Minimize the number of elbows in grease line to reduce pressure drop. Use radius bends is preferred to elbows where installation permits.
- When thermal expansion of oil may be present, use a pump pressure relief valve.