

TROUBLE-SHOOTING GUIDE

Water-Cooled Compressors



DISCHARGE PRESSURE LOW — demand greater than compressor capacity; rings worn; leaky packing; wrong speed; excessive leakage in system



NOT ENOUGH CAPACITY — too much leakage in piping or valves; discharge pressure too high; wrong speed; clogged filter; worn piston and rings



COMPRESSOR DOESN'T DELIVER AIR — dirty intake filter; suction line clogged; improperly installed valves; strips missing from compressor valves



EXCESSIVE COMPRESSOR VIBRATION — unit not properly secured to foundation; wrong type of foundation; piping not correctly supported



COMPRESSOR OVERHEATS — broken valve strips; not enough cooling water; air intake filter clogged; discharge pressure too high; internal leakage



COMPRESSOR OVERLOADS MOTOR — belts in drive too tight; discharge pressure or speed too high; discharge line clogged; wrong motor hookup



COMPRESSOR KNOCKS — loose flywheel or pulley; too much clearance in wrist-pin bushing; crankpin or main bearings; loose valve or piston nut

Air-Cooled Compressors



NOT ENOUGH CAPACITY — excessive leakage in pipes; fittings or valves; discharge pressure too high; wrong speed; clogged intake filter; worn piston and rings; leaky cylinder head gasket; belt slips; intercooler leaks



COMPRESSOR OVERHEATS — valve strips broken; direction of rotation wrong; intake filter clogged; discharge pressure too high; internal leakage or too much lubricating oil



COMPRESSOR KNOCKS — loose flywheel or pulley; loose valve in cylinder or loose unloader; excessive play in motor rotor; too much pin or crankpin-bearing clearance; belt too aligned; unloader sticking



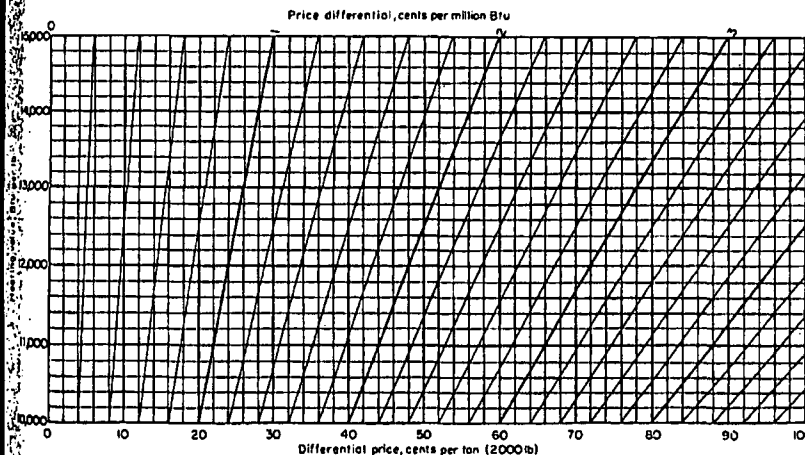
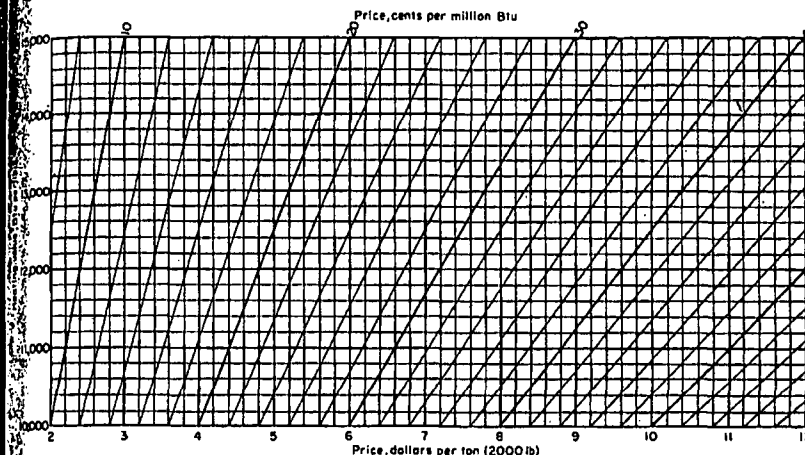
EXCESSIVE COMPRESSOR VIBRATION — unit not properly secured to foundation; wrong foundation; improper blocks not removed from under base motor; motor out of balance; one cylinder in 2 cylinder unit not working



UNIT BLOWS FUSES — lines too small; low voltage; pressure when starting too high; unit starting against full load; motor defective; compressor or motor binding

POWER'S DATA SHEET

No. 332



Operation & Maintenance

Your best guide to compressor operation and maintenance is the manufacturer's book. Too many operators file instruction books when they arrive and then promptly forget them. This is just too bad, because compressor builders put much time, energy and money into producing usable books that will answer most of your questions.

Start by following carefully the installation instructions for your compressor and its auxiliaries. A job that's installed right saves you many future headaches and insures topnotch performance.

Once a compressor is on the line and working right, regular inspection, lubrication and overhaul are chores that pay big dividends if done well. Here again, your best guide is the instruction book. It deals with your compressor exclusively, and is based on long experience.

Lastly, remember that many steps taken during system planning have direct effects on operation and maintenance. So plan your system well, working with a consulting engineer and the manufacturer whose compressor you intend to use.

If you live by these simple rules, troubles will be rare. If they do pop up, use the trouble-shooting hints above to give you a lead. Then turn to your instruction book for detailed information on cures.

ACKNOWLEDGMENTS

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Figuring Coal Costs

These charts help convert coal prices by ton into cents per million Btu so fuels of different heating value may be compared. Example: Find the Btu cost of coal listed

at \$6 per ton if it has a heating value of 12,000 Btu per lb. In upper graph, find \$6 on horizontal scale. Read up to intersect 12,000 Btu line. Between slanted lines read 25 cents per million Btu. Example: Coal A, 13,000 Btu per lb., costs 2c per million Btu more than coal B, 12,000 Btu per lb. In lower graph find

the slant line for 2c, follow down to intersect with 13,000 Btu to read 52c per ton on lower scale. This means A is 52c too high to equal cost of B. Conversely, find intersection of 2c with 12,000 Btu to read 48c per ton. This means B could rise 48c to equal cost of coal A.

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