

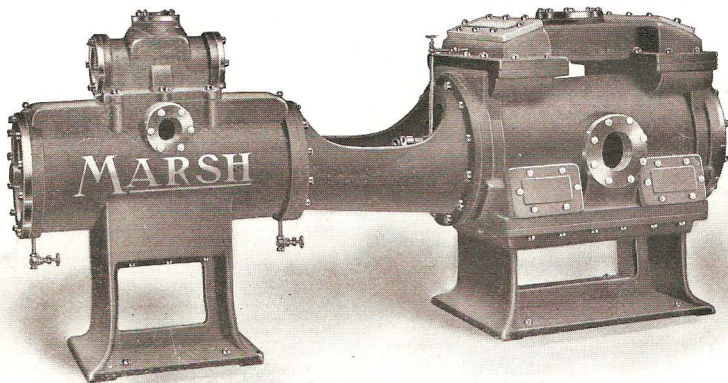
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Bulletin No. 31

Edition No. 1

Marsh Dry Vacuum Pumps



Number	Steam Cylinder	Air Cylinder	Stroke	Steam Pipe	Exhaust Pipe	Suction Pipe	Discharge Pipe	Weight Pounds	Price	Code Word
0...	10	14	20	1¼	1½	4	4	2750	.....	Roseberry
3...	10	16	20	1¼	1½	6	6	4500	.....	Rosary
4...	12	18	20	1½	2	6	6	4750	.....	Rosen
1...	14	18	20	2	2½	6	6	5000	.....	Rosy
2...	16	20	36	3	3½	6 to 8	6 to 8	8000	.....	Rosiate

Marsh Dry Vacuum Pumps

For Sugar House Work

We illustrate on the opposite side the Marsh Vacuum Pump, which has been built expressly for dry vacuum work in connection with sugar making and refining machinery. No expense has been spared to produce the most perfect and effective engine for the service. The steam cylinder and valve motion are of the well known Marsh type, the automatic governing element of which controls the speed within range of the throttle adjustment. The piston can never race or pound, or run too fast for full vacuum effect, with the throttle wide open and the highest steam pressure, nor will the piston or valves slam (with the admission of extra injection water), to endanger the cylinder heads and connections.

The steam cylinders of these pumps are made considerably larger than in other pumps of this class, for the purpose of maintaining an effective speed under low steam pressure, caused by suddenly starting up temporarily idle pans, or heavy draughts of steam to other parts of the system. This increase in diameter of the power cylinder provides a reserve force to meet any emergency, and the economy of ordinary operation is in no way affected. The steam admission valve delivers to the cylinder just steam enough to do the work to best advantage, and no more; and while a greater volume of steam is used in the large cylinder, it is at a much lower tension when controlled by the Marsh valve gear.

The advantage of the long stroke permits the air piston to do increased service, when required, by increased speed. Any attempt to obtain this in the ordinary 8- or 10-inch stroke pumps will fail, because the valves do not seat in the time required by the piston to complete its stroke.

The air cylinder itself is a complete departure from old line designs. Air valves, seats and cylinder lining are of the best phosphor bronze, and need absolutely no attention whatever. Each set of valves is provided with a hand plate of ample size to allow ready access to each valve instantly, and with no heavy or difficult parts to remove. Both suction and delivery valves are perfectly water-sealed, the former being placed in "pockets" below the lowest line of the air cylinder bore, from which the water cannot possibly escape unless drained purposely. The air piston is especially designed with wide flanges which pass clear across the cylinder ports and close up to the heads, reducing clearance to less than two per cent of the air piston's displacement.

So successful has been the attempt to reduce the cylinder and port clearance in these pumps that a perfectly dry vacuum can be produced (without a particle of water in the air cylinder) of twenty-five or twenty-six inches.