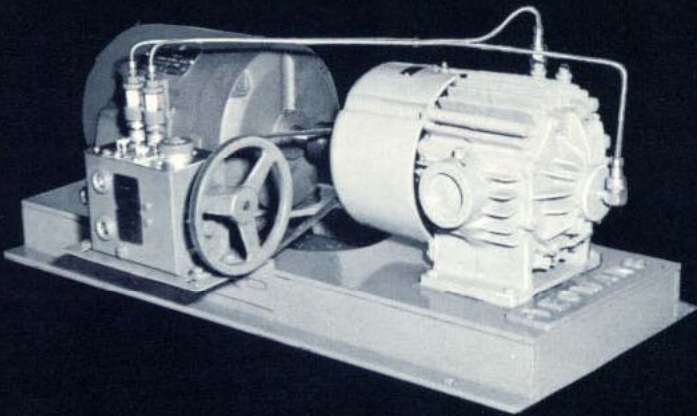
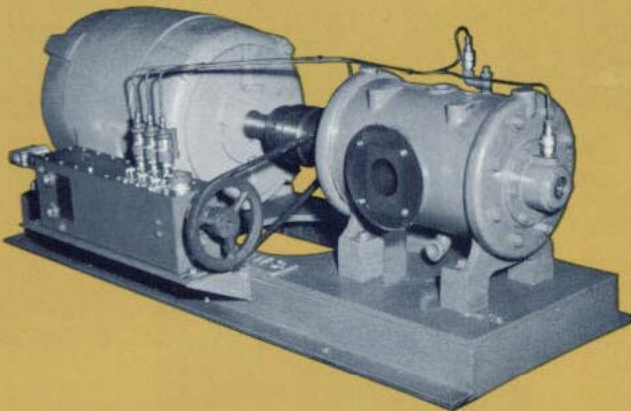


AIR COOLED



FAN COOLED



WATER COOLED

ROTARY COMPRESSORS/DRY VACUUM PUMPS

YEOMANS

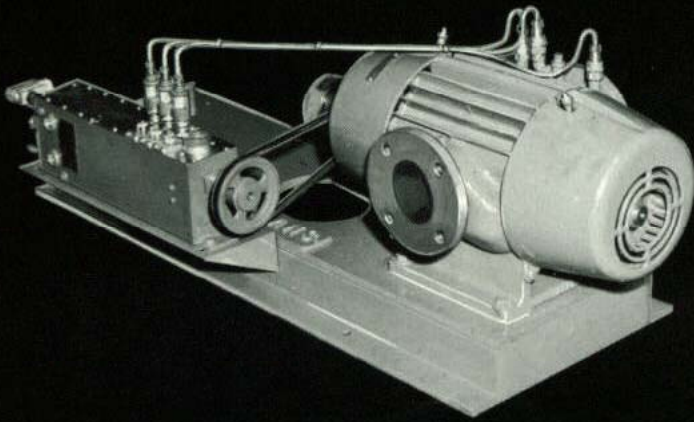
3905 Enterprise Court
Aurora, IL 60504
(630) 236-5500
FAX (630) 236-5511

BULLETIN 7004-A

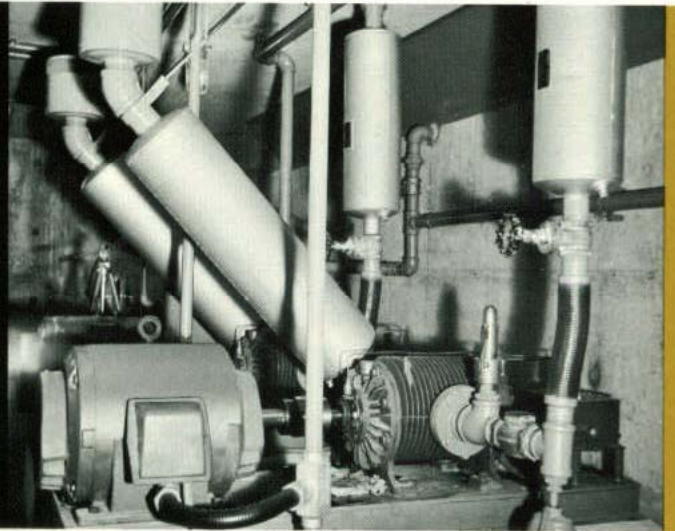
MULTI-PURPOSE ROTARY UNITS FOR HIGH VOLUME, LOW PRESSURE REQUIREMENTS

TYPICAL APPLICATIONS

- Central Air and Vacuum Systems for Buildings –
Science buildings, laboratories, schools,
universities, research buildings
- Instrument Air Applications –
Refineries, chemical processing plants
- Natural Gas Boosters in Low Pressure Systems
- Compressing Methane and Sewage Gas
- Industrial Oil Burner Service
- Marina De-Icing
- Vapor Recovery Service

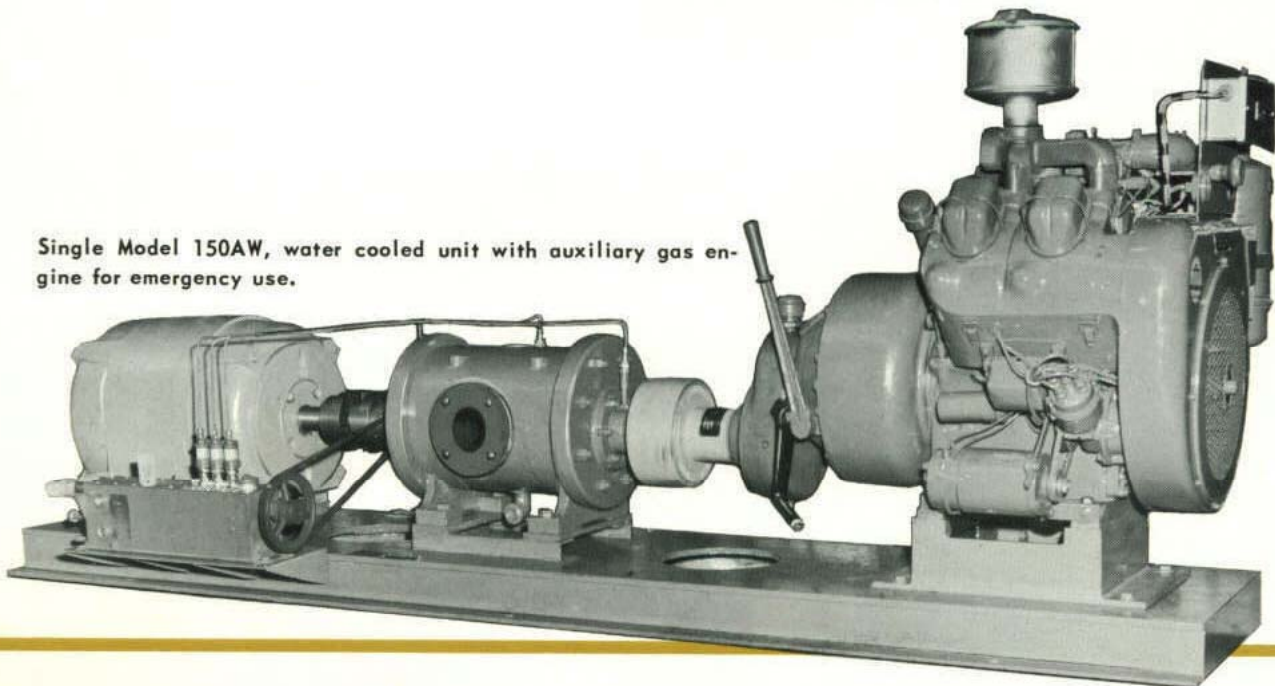


Larger fan cooled units have a fan at each end.



Two Model 150A, air cooled units in a central air supply station.

Single Model 150AW, water cooled unit with auxiliary gas engine for emergency use.



SIX PLUS VALUES OF ROTARY DESIGN AS ENGINEERED BY YEOMANS

Yeomans designed these units to provide you with a wide choice of air and gas compressors and vacuum pumps that offer many outstanding benefits.

CONTINUOUS FLOW . . . NO DISCHARGE PULSATIONS

The rotary multi-vane design produces a continuous positive flow of gas without the pulsations found in reciprocating equipment. Operation is quiet, because there are no valves, reciprocating parts, or other vibration producing equipment.

BUILT TO TAKE IT DAY IN, DAY OUT

Rotors, cylinders, end plates, and bearing caps are made of cast iron. The turned, ground, and polished steel shaft is pressed into the rotor and secured by pins. All fan cooled units have ball or needle bearings. All air cooled and water cooled units are furnished with roller bearings.

EFFICIENT PERFORMANCE NEVER VARIES

Efficient performance of the compressor is maintained through the years because of the automatic adjustment of the sliding vanes for any wear. As the rotor turns, the vanes are forced out to the cylinder wall by centrifugal force. Any wear is continuously compensated for automatically.

ECONOMICAL FIRST COST . . . OPERATION, MAINTENANCE

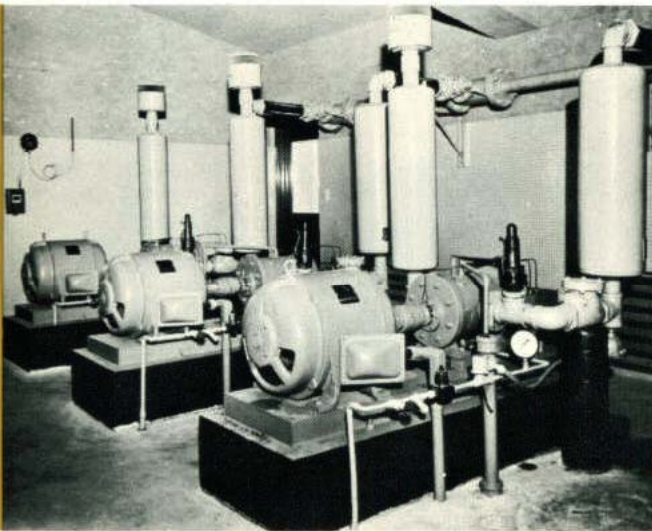
Simplicity of design results not only in lower initial cost of Yeomans compressors but in a minimum of operating and maintenance cost. The only maintenance necessary is to make sure the lubricator is filled, and that the unit is periodically inspected for condition of the vanes. The vanes are made of tough, hard nonmetallic and noncorrodable material. Both vanes and cylinder walls wear extremely slowly.

STUFFING BOX PROBLEMS ELIMINATED

All compressors are supplied with mechanical seals to insure positive sealing without the normal requirement for a sealing gland on the stuffing box for vacuum pumps or the periodic drippage from stuffing boxes on compressor applications.

AUTOMATIC LUBRICATION WITHOUT WASTE

Yeomans compressors and vacuum pumps have grease or oil lubricated anti-friction bearings and oil lubricated cylinders and vanes. The lubricator operates when the compressor is running to insure thorough, positive oil lubrication at all times. There is never any oil waste. Oil flow is adjustable to fit each individual application which eliminates oil waste.



Three Yeomans Model 150, water cooled compressors form this central air supply station.

ADDITIONAL APPLICATIONS

- Vacuum Tank Service for Dewatering Septic Tanks and Sludge Storage Tanks
- Creating Low Vacuums in Central Systems in Buildings, Industrial Plants, Schools, and Laboratories
- Hospital Vacuum Service
- Primary Pump on High Vacuum Systems

OPERATION AND CONSTRUCTION SPECIFICATIONS

3 BASIC SERIES

It is the use of the proper cooling method in your specific compressor application that will insure you of the greatest economy in initial cost and operating efficiency. That's why Yeomans has three basic rotary air and gas compressors – air cooled, fan cooled, and water cooled.

The capacity of these units extends up to 300 c.f.m. and pressures up to 50 psi or for moderate vacuums up to 27" of mercury (or 95% of barometric pressure). Since they are of the positive displacement type, these units cannot be operated with a closed discharge. Air storage or cushion tanks are required only where automatic start-and-stop control is needed because the discharge from the units is pulsation-free.

FAN COOLED AND AIR COOLED UNITS

The complete assembly of these units consist of a cylinder with inlet and discharge ports on opposite sides and a circular rotor that is mounted eccentrically in the cylinder so its surface runs close to one side of the cylinder wall. The rotor shaft is carried by anti-friction bearings in the two cylinder heads.

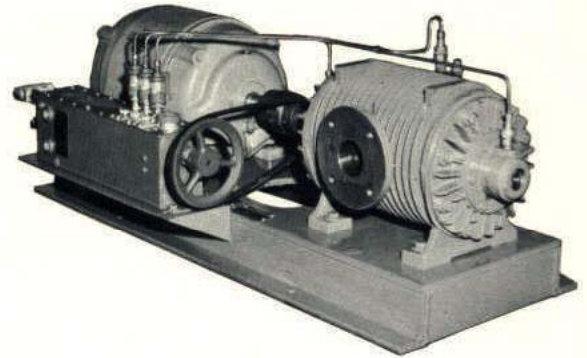
Radial slots are milled along the full length of the rotor to carry the composition vanes inserted in them. When operating, centrifugal force causes the vanes to follow the inside contour of the cylinder. Since the cylinder contour is not concentric with the rotor, the vanes are continuously being forced in and out. The cell space between the vanes is contracted with each revolution, trapping the gas and compressing it before discharging to the exhaust port. Vane action is wholly dependent upon centrifugal force. There are no springs and compensation for any wear of the vane is automatic.

Cooling of the fan cooled machine is accomplished by forcing atmospheric air, which is taken in through the coupling end of the housing, over the fins on the compressor cylinder. In the larger machine, (Model No. 7108), a fan is mounted on each end. Lubrication of the smaller machines is by diaphragm operated force feed lubricator (Model No. 545) and force feed mechanical lubricator driven from the compressor shaft on all other sizes.

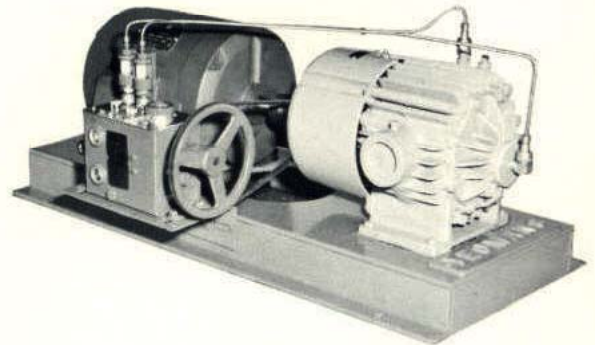
The air cooled machine depends entirely upon the convection fins on the outer periphery of the compressor for cooling. Both fan cooled and air cooled machines operate in similar fashion.

WATER COOLED UNIT

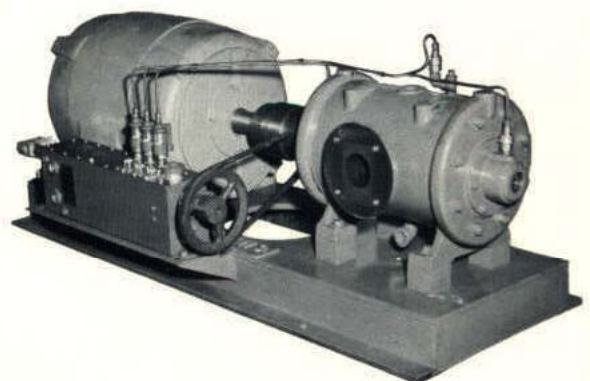
When pressures exceed the normal limitations of the air cooled machine and in some continuous duty applications, it is necessary to provide a separate water cooling jacket to the cylinder head and cylinder of the compressor. When necessary, temperature compensating equipment to maintain consistent temperature in the compressor is provided.



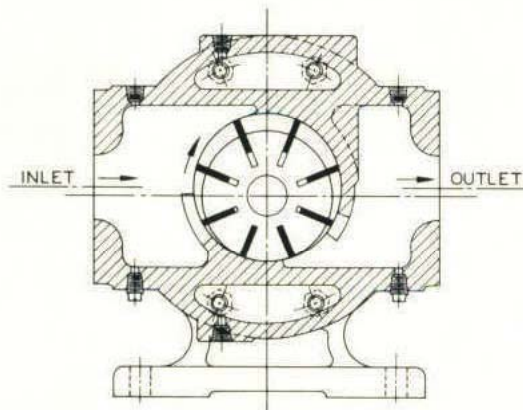
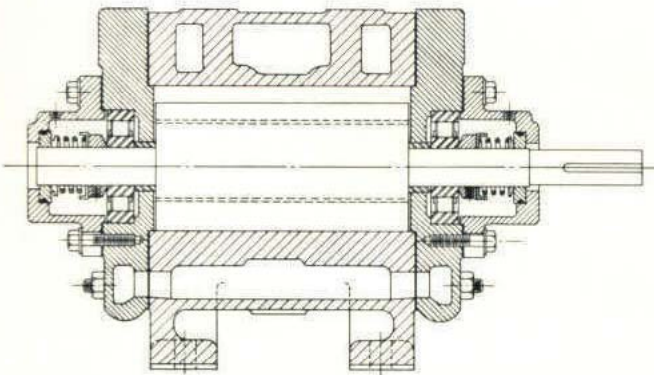
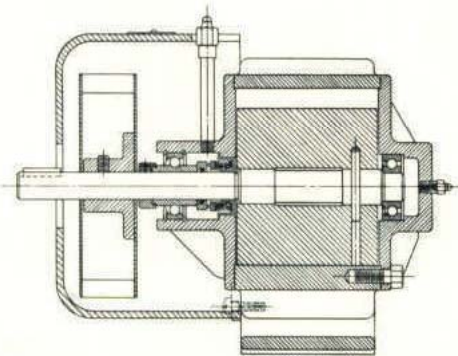
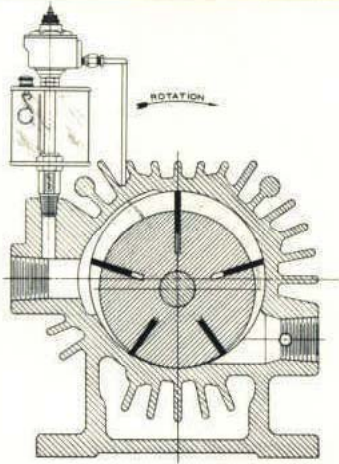
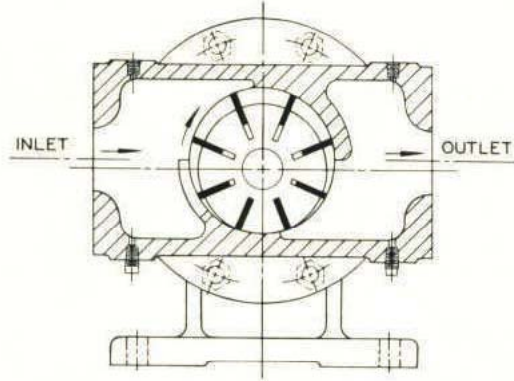
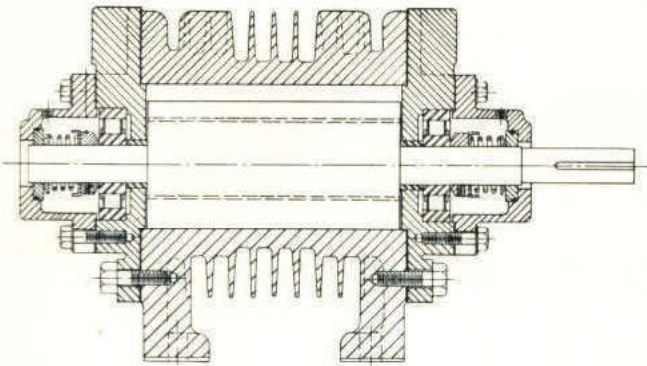
AIR COOLED



FAN COOLED

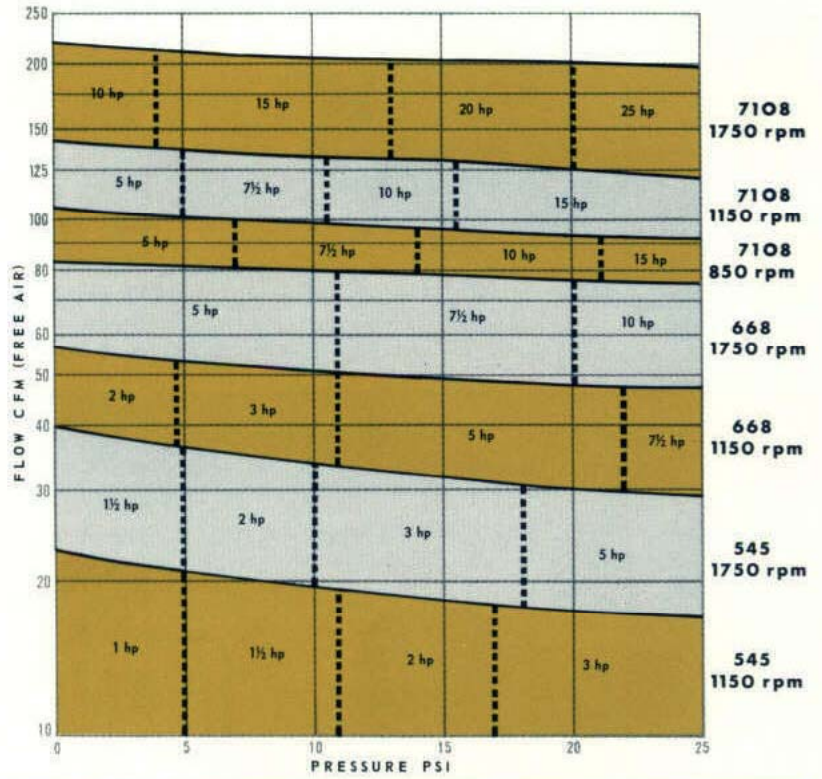


WATER COOLED

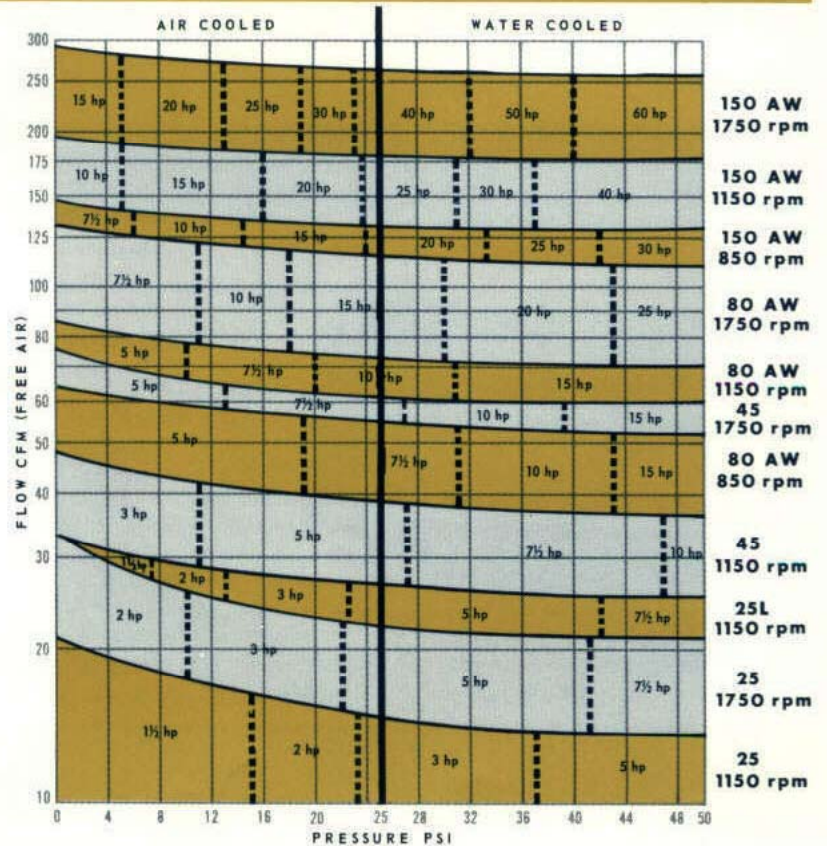


SELECT COMPRESSORS (AIR/GAS) FROM THESE PERFORMANCE CURVES

FAN COOLED COMPRESSORS



AIR/WATER COOLED COMPRESSORS



SELECT DRY VACUUM PUMPS FROM THESE TABLES

AIR COOLED AND AN COOLED VACUUM PUMPS

VACUA INCH OF MERCURY		VACUUM PUMP MODEL NUMBER AND MOTOR RPM											
		545 1150	25L 1150	545 1750	45 1150	25L 1750	668 1150	45 1750	80A 1150	80A 1750	7108 1150	150A 1150	150A 1750
5	cfm	23	35	38	43	52	53	72	92	141	146	204	320
	hp	1	1	1½	3	1½	2	5	3	7½	7½	10	15
10	cfm	21	33	36	42	50	50	70	89	137	143	200	308
	hp	1	1	1½	3	2	2	5	3	7½	7½	10	15
15	cfm	18	31	33	40	48	46	67	87	131	136	190	288
	hp	1½	1½	2	3	2	3	5	5	7½	7½	10	15
20	cfm	16	27	30	35	42	38	60	83	125	118	168	260
	hp	1½	1½	3	3	3	3	5	5	7½	7½	10	15

Note: Flow rates based on free air at intake conditions

WATER COOLED VACUUM PUMPS

VACUA INCH OF MERCURY		VACUUM PUMP MODEL NUMBER AND MOTOR RPM							
		25L WC 1150	45 WC 1150	25L WC 1750	45 WC 1750	80AW 1150	80AW 1750	150AW 1150	150AW 1750
5	cfm	35	43	52	72	92	141	204	320
	hp	1	3	1½	5	3	7½	10	15
10	cfm	33	42	50	70	89	137	200	308
	hp	1	3	2	5	3	7½	10	15
15	cfm	31	40	48	67	87	131	190	288
	hp	1½	3	2	5	5	7½	10	15
20	cfm	27	35	42	60	83	125	168	260
	hp	1½	3	3	5	5	7½	10	15
25	cfm	15	20	22	38	75	110	111	206
	hp	1½	2	3	5	5	7½	10	15
27	cfm	0	0	0	10	50	70	48	150
	hp	1½	2	3	5	5	7½	10	15

Note: Flow rates based on free air at intake conditions

ACCESSORIES

A variety of optional accessories are available with the Yeomans rotary compressors and vacuum pumps. Depending upon your application, any of the following accessories may be required.

RECOMMENDED STANDARD ACCESSORIES

Air Filter – Installed on the inlet of compressors. The air filter is used to eliminate as much foreign matter as possible from entering the compressor.

Silencers – Where quiet operation is necessary, silencers can be furnished mounted on the inlet and discharge.

SAFETY DEVICES

Safety Valves – It is recommended that a safety valve be installed in the discharge line. The valve should be set at a predetermined pressure to protect the compressor and motor.

Check Valve – A check valve in the discharge line is required to prevent compressed air from flowing back through the compressor when the driver shuts down.

Low Level Cut-Off – Furnished on larger compressors, optional on smaller machines. Automatically shuts the compressor down when oil is required in the lubricator.

High-Temperature Shut-Off Switches – Actuated by the temperature of the discharge air or cooling water outlet. Protects the compressor against operating at excessive temperatures.

Belt Guards – Available for the coupling and lubricator belt drive. Recommended in all locations to protect personnel from coming in contact with the rotating parts and belt.

WATER COOLING

Water Flow Rate Regulator – A modulating type valve located in the incoming water cooling line. It is controlled by the temperature of the cooling water leaving the compressor.

Water Control Valve – A solenoid valve installed in the incoming water line. Actuated by energizing the compressor electrical circuit.

STAND-BY POWER ACCESSORIES

Automatic Start-Stop – Recommended on applications where electrical power is frequently interrupted and a gasoline or diesel engine is furnished.

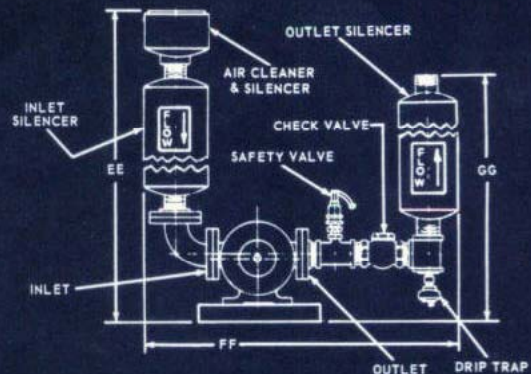
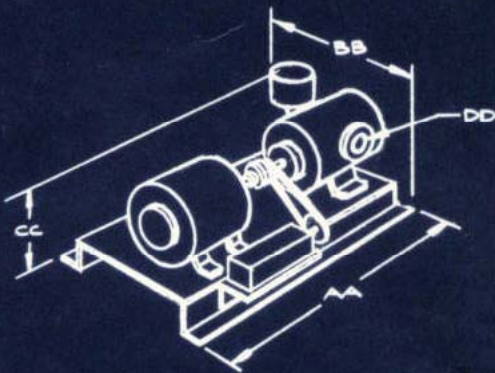
The system consists of a control panel including power failure relay, DC-AC invertors when necessary, and all controls for automatic starting and stopping of the engine.

Dual Extended Shaft – Compressors can be furnished with a dual extended shaft for both engine and motor drive in areas with frequently interrupted power service.

Unloading System – Recommended for all applications with engine drive and where frequent starts and stops may be harmful to the driver.

The purpose of this patented system is to allow the compressor to unload when air is not required without stopping the driver.

MAXIMUM DIMENSIONAL DATA



COMPRESSOR SIZE	HP	AA	BB	CC	DD
545	1½ - 5	38	20	19	1
25WC	1½ - 7½	38	30	18	1½
25L (WC)	1½ - 7½	41	30	18	1½
45WC	2 - 15	46	32	21	2
668	3 - 10	38	32	19	2
80A	5 - 15	49	33	23	2½
80AW	5 - 20	54	34	24	2½
7108	5 - 20	55	36	26	3
150A	10 - 40	63	41	25	3
150AW	10 - 50	67	41	26	3

COMPRESSOR SIZE	HP	EE	FF	GG
545	1½ - 5	31	28	30
25WC	1½ - 7½	34	29	32
25L (WC)	1½ - 7½	41	32	32
45WC	2 - 15	42	37	38
668	3 - 10	39	36	36
80A	5 - 15	51	48	47
80AW	5 - 20	52	48	48
7108	5 - 20	65	54	54
150A	10 - 40	65	60	67
150AW	10 - 50	66	60	68

All Dimensions in Inches.