



5F AND 5H OPEN DRIVE COMPRESSORS

**THE WORKHORSE COMPRESSOR...
TIME PROVEN QUALITY AND HIGH EFFICIENCY**



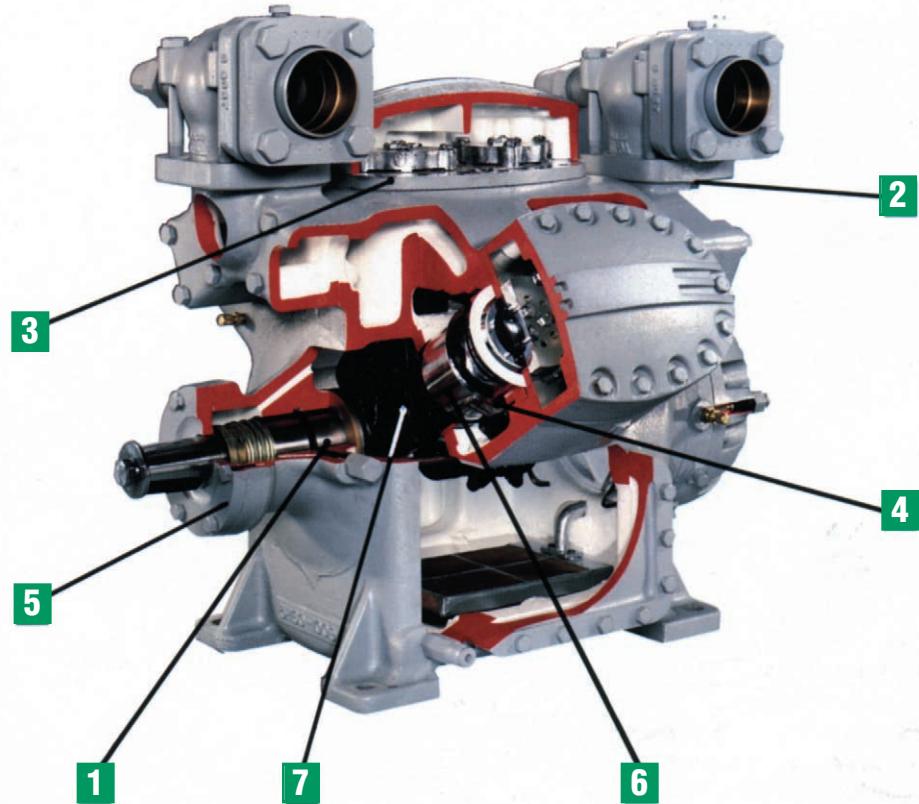
REPLACEMENT COMPONENTS DIVISION • CARRIER CORPORATION

The 5F, 5H compressor is a workhorse when it comes to comfort cooling, industrial processes, low temperature food storage and many other commercial and industrial applications.

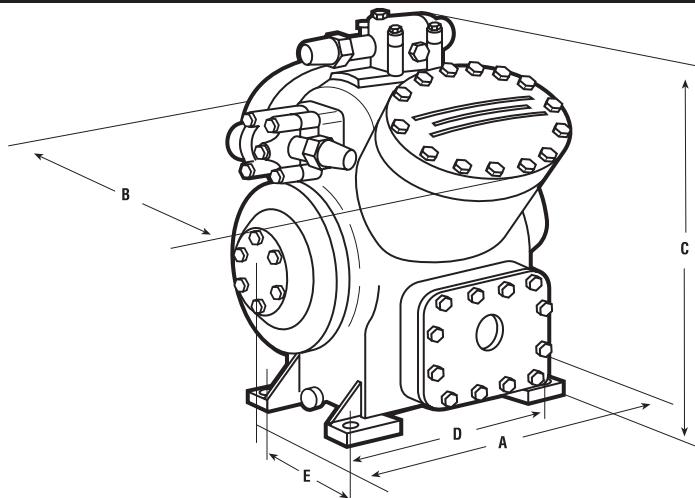
These competitively priced compressors are available in 12 sizes ranging from 5 to 150 tons of cooling. Each size can be operated with refrigerants R-134a, R-22 and R-507/404A. The flexibility of the 5F and 5H permits a choice of motors, either belt or direct drive, to match refrigerant and job requirements.

STANDARD FEATURES

- 1** Statically and Dynamically Balanced Crankshaft
- 2** Unrestrictive Suction Gas Inlet
- 3** Precision-Ground Valve Plate Assembly with Swedish Steel Ring Valves
- 4** Internal Capacity Control System
- 5** Time-Proven Shaft Seal Assembly
- 6** Removable Cylinder Liners
- 7** Forged-Steel Connecting Rods with Replaceable Bearing Inserts
- 8** Oil-Level Sight Glass
- 9** Oil Drain
- 10** Reversible Oil Pump
- 11** Fine Mesh Suction Gas Inlet



- Automatic unloaded starting makes the use of expensive high torque motors unnecessary, saving on initial costs.
- As cooling load changes, the capacity control automatically adjusts compressor capacity to as low as 25% of full design load, reducing horsepower requirements and demand charges. This part-load operation, in turn, increases energy efficiency and lowers utility bills.
- The design of the crankcase casting, cylinder heads and valve plates allows for a smooth, unrestricted refrigerant flow through the compressor, resulting in greater operating efficiency.
- Positive pressure lubrication is provided by a large capacity manually reversible oil pump, an automatic pressure regulator and an oil filtering system, resulting in extended compressor life.
- On all units, the oil passes through a fine-mesh screen before reaching the oil pump. A full-flow filter, standard equipment on 5H12-126 units, ensures proper clarification of the large-volume oil charge in these compressors.
- Suction gases stay in contact with cylinder sleeve to keep oil cool and reduce cylinder wear.
- Ease of field maintenance and replacement of components such as cylinder liners, pistons and bearings, extend compressor life while keeping service costs down.
- A 2-piece shaft seal assembly virtually eliminates seal leakage. A carbon ring in combination with a neoprene bellows seals tightly against a highly polished seat. The seal assembly is completely surrounded by an oil bath for maximum reliability over a wide temperature range.
- Efficient crankcase heater design prevents liquid refrigerant accumulation in crankcase during shutdown. This assures undiluted oil supply throughout the compressor.



APPLICATION DATA

MODEL NO.	NOMINAL HORSEPOWER			NO. OF CYL.	BORE (IN.)	STROKE (IN.)	CFM @ 1075 RPM	RATINGS IN TONS*			MINIMUM SPEED FOR UNLOADER OPERATION	OIL CHG. (PINTS)	SUCT. LINE ODF (IN.)	DISCH. LINE ODF (IN.)	COMP. WT. (LB.)
	R-134a	R-22	R-507/404A					R-134a	R-22	R-507/404A					
5F20	5	10	10	2	2-1/2	2	19.8	5.18	8.46	8.40	600	5	1-1/8	7/8	175
5F30	7-1/2	15	15	3	2-1/2	2	29.8	7.76	12.7	12.56	700	5-1/2	1-5/8	1-3/8	215
5F40	10	20	20	4	2-1/2	2	39.8	10.5	16.8	16.77	800	12	1-5/8	1-3/8	355
5F60	15	25	25	6	2-1/2	2	59.6	15.7	25.3	25.17	900	13	2-1/8	1-5/8	400
5H40	25	40	40	4	3-1/4	2-3/4	92.4	24.7	39.6	38.48	800	18	2-5/8	2-1/8	610
5H46	40	60	60	4	3-1/4	3-7/16	115.5	30.6	49.1	47.72	800	18	2-5/8	2-1/8	610
5H60	40	60	60	6	3-1/4	2-3/4	138.4	37.0	59.4	57.73	900	21	3-1/8	3-1/8	795
5H66	50	75	75	6	3-1/4	3-7/16	173.0	45.9	73.8	71.58	900	21	3-1/8	3-1/8	795
5H80	50	75	75	8	3-1/4	2-3/4	184.7	49.5	79.2	76.98	1100	41	3-1/8	3-1/8	1115
5H86	75	100	100	8	3-1/4	3-7/16	231.0	61.1	98.2	95.47	1100	41	3-1/8	3-1/8	1115
5H120	75	125	125	12	3-1/4	2-3/4	276.0	74.0	119.0	115.47	900	61	4-1/8	4-1/8	1580
5H126	100	150	150	12	3-1/4	3-7/16	346.0	91.8	145.0	143.19	900	61	4-1/8	4-1/8	1580

NOTES:

1. * 40°F saturated suction, 105°F saturated discharge, 15°F superheat, 0°F subcooling
2. 45 PSIG net oil pressure (oil pressure PSIG—suction pressure PSIG)
The above oil pressure is typical with mineral or alkylbenzene oils.
A slight increase in oil pressure may result with the use of PolyOilEster (POE) oil.
3. ODF = Outside Diameter Female (in.)
4. Maximum RPM = 1750
5. Minimum RPM for lubrication = 400 RPM

COMPRESSOR DIMENSIONS

ACCESSORIES

The 5F,H line offers many quality accessories that enhance your system's capabilities and performance. Consult 5F,H Product and Application Data publications for specific applications of these accessories. Accessories are available from your authorized Carlyle distributor.

Control panel allows precision monitoring and control of compressor operations, oil pressure, short cycle protection, start-up and more. Eliminates time consuming and costly field fabrication. All control panels meet NEMA requirements for enclosures.

Water-cooled heads protect compressor by keeping heads cool when compression ratios or discharge gas temperatures are high.

Partial-flow oil filter is available for 5H40 thru 5H86 compressors to aid in prolonging service life by providing additional filtration to that of the fine-mesh screen furnished as standard equipment on all compressors.

Water-cooled oil cooler prevents oil breakdown by removing excessive heat caused by highly superheated suction gas or high compression ratios. Ensures increased life expectancy of compressor and components.

Couplings connect ends of drive shaft and driven unit, transmit torque and allow for a small amount of shaft misalignment. Prolongs service life by relieving stress and preventing damage to bearings and seals. Also absorbs shock, vibration and pulsation of compressor.

Belt-drive package (motor pulley, belts, compressor flywheel) is available for compressor operation at 1750 or 1450 RPM with 1750 RPM motors. All components are precision matched to obtain optimal compressor performance and minimum wear.

Muffler attenuates sound and gas pulsations, resulting in low sound levels.

Crankcase heater prevents refrigerant dilution of oil to ensure proper lubrication.

