

# STATIONARY SKID-MOUNTED COMPRESSORS\*

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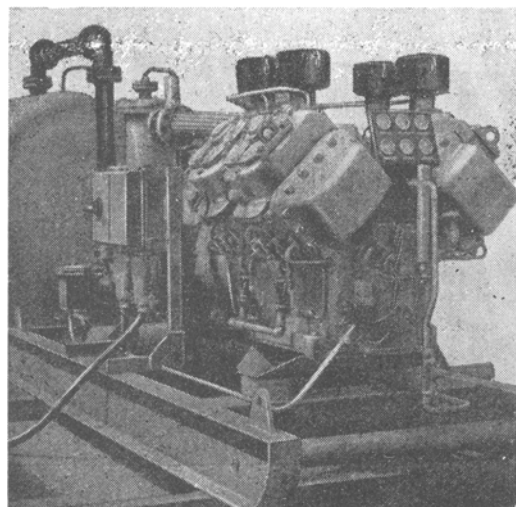
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FMA Pokorny, West Germany, is manufacturing stationary V-angle water-cooled-cylinder Neptune type compressors. These compressors come in five standard models, with delivery pressure of 12 kΓ/cm<sup>2</sup> and capacities ranging from 6.5 to 17 m<sup>3</sup>/min.

All five standard models are built up from modularized components with appreciable simplification in fabrication and maintenance. For example, the compressors utilize only two types of crankcases and cylinder-piston groups, and only one type of connecting rod. Each first-stage and second-stage cylinder block has three intake and three exhaust plate valves.

Given below are basic data on the five compressor models, and a photograph showing a general view of the one of them.

Parameter	Compressor type				
	ZN65	ZN85	ZN100	ZN135	ZN170
Capacity in m <sup>3</sup> /min	6,6	8,2	10,2	13,2	16,5
Pressure in kΓ/cm <sup>2</sup>	12	12	12	12	12
Shaft power, kW	48	59	71	91	115
Weight (minus electric motor) in kg	700	715	1270	1300	1330



General view of ZN170 compressor.

A feature of the design of these compressors is the appreciably lower ratio of piston stroke to first-stage diameter (0.35), so that high shaft rpm (1000 rpm) can be maintained at a piston speed of 3.07 m/sec and valves with large flow areas have ample room. An impressive drop in compressor cost resulted. The specific power drain of the ZN65 compressor is 5.86 kW/m<sup>3</sup>/min in generating 8 atms pressure, that of the BY6/8 compressor is 6.35 kW/m<sup>3</sup>/min in generating the same pressure.

Another design feature is the intercoolers fabricated in plate form and mounted on the cylinder block. Moreover, each compressor may be fitted with a control system for regulating capacity, and a reverse water system (the water flow rate in a 17 m<sup>3</sup>/min capacity compressor does not exceed 24 liters/min); an air-cooled interchanger is included in the water system. The automatic control system facilitates easy maintenance operations, including purging condensate from the intercoolers when starting up the plant.

\* Based on a brochure issued by FMA Pokorny, West Germany.

The electric motor, rigidly coupled to the compressor, has its rotor coupled to the crankshaft by an elastic coupling. The compressor is supported by three legs with shock absorbers. A flexible corrugated steel hose provides the connection to the output lines. This arrangement makes for a compact compressor plant, and the excellent dynamic balance of the rotating parts makes it possible to mount the plant without a floor foundation.