CLAIMS

1. A compressor (22) comprising:

a case (32) defining:

a first cylinder bank (70) having a plurality of cylinders (76, 77);

a cylinder head (100);

a suction port (26);

a discharge port (28); and

an economizer port (30); and

a plurality of pistons, each individually associated with a respective one of the cylinders; and a crankshaft (202) held by the case for rotation about a crankshaft axis and coupled to the pistons,

wherein:

the first cylinder bank cylinder head is divided into: a first suction chamber (130); a second suction chamber (132); and a single discharge chamber (128);

the first cylinder bank first suction chamber is coupled to the suction port;

the first cylinder bank second suction chamber is coupled to the economizer port; and

the first cylinder bank discharge chamber is coupled to the discharge port.

2. The compressor of claim 1 wherein:

the economizer port is on the first cylinder head.

3. The compressor of claim 1 wherein:

the economizer port and the discharge port are on the first cylinder head.

4. The compressor of claim 1 wherein:

the case (32) further defines:

a second cylinder bank (72) having a plurality of cylinders (78, 79); and

for the second cylinder bank, a cylinder head (102);

the second cylinder bank cylinder head is divided into: a single suction chamber (120); and a single discharge chamber (124);

the second cylinder bank suction chamber is coupled to the suction port; and

the second cylinder bank discharge chamber is coupled to the discharge port.

5. The compressor of claim 4 wherein:

the first cylinder bank and the second cylinder bank have identical valve plates.

6. The compressor of claim 4 wherein:

a first cylinder of the first cylinder bank and the cylinders of the second cylinder bank have a first displacement; and

a second cylinder of the first cylinder bank associated with the second suction chamber has a second displacement, different than the first displacement.

7. The compressor of claim 4 wherein:

the first cylinder bank first suction chamber and second cylinder bank suction chamber are coupled to the suction port via a sump (140) of the compressor.

8. The compressor of claim 4 wherein:

the case defines a third cylinder bank (74).

9. The compressor of claim 4 wherein:

the case defines a third cylinder bank (74) having a head (104) divided into a single suction chamber (122) and a single discharge chamber (126).

10. The compressor of claim 9 wherein:

the third cylinder bank suction chamber is coupled to the suction port; and

the third bank discharge chamber is coupled to the discharge port.

11. The compressor of claim 10 wherein:

the first, second, and third cylinder banks each have exactly two cylinders.

12. The compressor of claim 10 wherein:

the second cylinder bank is a central cylinder bank; and

the first cylinder bank discharge chamber and third cylinder bank discharge chamber are coupled to the discharge port via the second cylinder bank discharge chamber.

13. A method for using the compressor of claim 4, the method comprising:

passing a first flow to the suction port;

passing a second flow to the economizer port;

splitting the first flow into respective first and second branch flows to the first cylinder bank first suction chamber and the second cylinder bank suction chamber

passing the first branch flow through a first cylinder of the first cylinder bank to the first cylinder bank discharge chamber;

passing the second branch flow through the second cylinder bank cylinders in parallel to the first cylinder bank discharge chamber;

passing the second flow through a second cylinder of the first cylinder bank to the first cylinder bank discharge chamber; and

passing a combined flow from the first cylinder bank discharge chamber and the second cylinder bank discharge chamber out the discharge port.

14. The compressor of claim 1 further comprising:

an electric motor (200) coupled to the crankshaft to drive rotation of the crankshaft.

15. The compressor of claim 1 wherein:

a wall (134) of the first cylinder bank cylinder head between the first suction chamber and the second suction chamber intersects a wall (250) between the discharge chamber of the first cylinder bank and the first and second suction chambers of the first cylinder bank.

16. The compressor of claim 1 wherein:

a portion (260) of the first cylinder bank cylinder head blocks the first cylinder bank second suction chamber from communication with a port in a valve plate of the first cylinder head, the port communicating with a sump of the compressor.

17. The compressor of claim 16 wherein:

the portion (260) of the first cylinder bank cylinder head is a wall intersecting another wall(250) dividing the first cylinder bank discharge chamber form the first cylinder bank second suction chamber.

18. A system comprising the compressor of claim 1 and further comprising:

a heat rejection heat exchanger (40);

an expansion device (42);

a heat absorption heat exchanger (44);

a refrigerant flowpath (24) from the discharge port sequentially through the heat rejection heat exchanger, expansion device, and heat absorption heat exchanger, returning to the suction port; and

an economizer flowpath (50) branching from the refrigerant flowpath to return to the economizer port.