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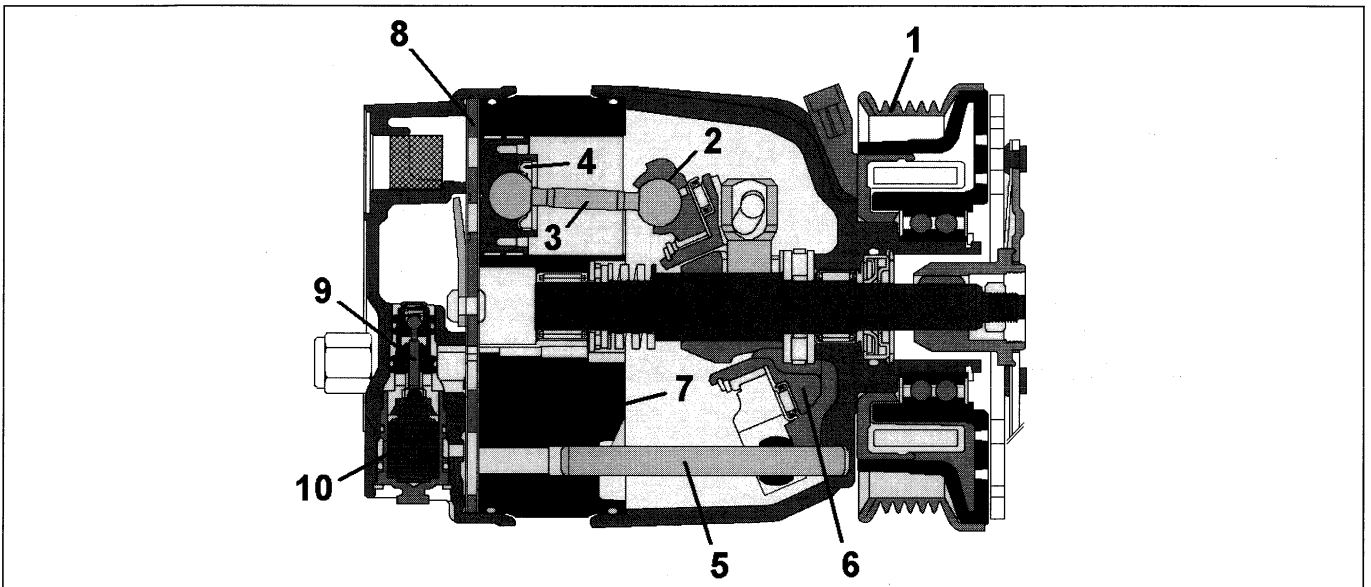
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**FOR ANYTHING NOT DEALT WITH,  
REFER TO THE BASIC MANUAL, SECTION 50.**

### COMPRESSOR ( 1596 engine)

The compressor fitted on this version is the HR V5 variable capacity type, illustrated in the diagram below, and consists of:

- a crankcase (7) which contains the bores in which the pistons (4) slide;
- an assembly comprising a shaft on which an inclined plate (6) is fitted on which a disc (2) guided by a pin (5) integral with the five connecting rods (3) controlled by the pistons (4) rotates on roller bearings;
- a cylinder head which contains the intake and supply ducts as well as the housing for the regulation valve (9);
- a plate (8), between the crankcase and the cylinder head, which contains the inlet and supply valves;
- a pulley assembly with an electro-magnet coupling (1).



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- |                         |                           |
|-------------------------|---------------------------|
| 1. Pulley with coupling | 6. Inclined plate         |
| 2. Disc                 | 7. Crankcase              |
| 3. Connecting rod       | 8. Valve holder plate     |
| 4. Piston               | 9. Regulation valve       |
| 5. Disc guide pin       | 10. Valve control bellows |

### Operation

The alternating drive required for the sliding of the pistons in the bores/liners is produced by the rotary motion of the inclined plate (6), whilst the variation in the capacity, dependent on the piston stroke, is achieved through the alteration in the angle of the disc (2) controlling the connecting rods (3).

The inclination of the above mentioned disc depends on the difference in pressure between the intake duct and the inside of the compressor. This difference, measured by the bellows (10), operates the regulation valve (9) and consequently causes the movement of the disc (2).

When the request for conditioned air is high, the regulation valve (9) is positioned in such a way that it uncovers an opening which places the intake side in contact with the inside of the compressor; as, in this case, there is no difference in pressure, the compressor operates at maximum capacity corresponding to the position of the disc illustrated in the previous section.

When the air request is less, the valve is positioned so that the supply section is in contact with the crankcase and, at the same time, it stops the flow between the latter and the intake side activated previously.

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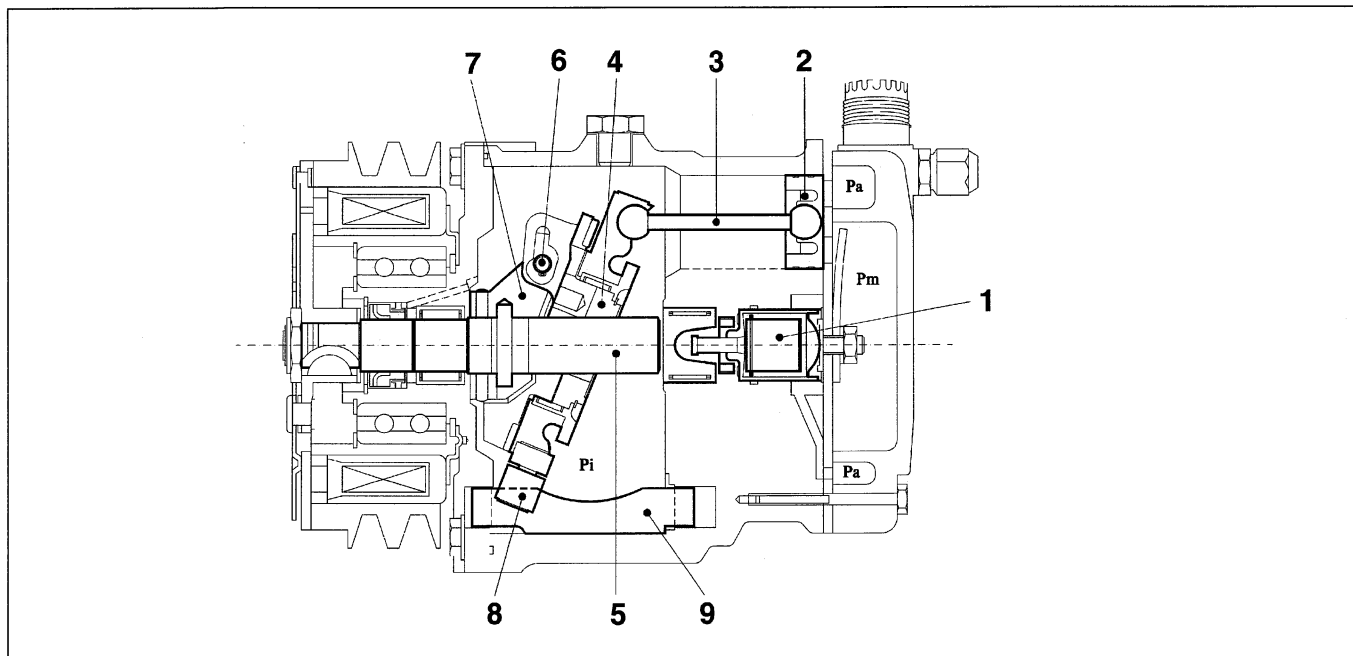
#### COMPRESSOR ( 1910 JTD)

The compressor fitted on this version is the SANDEN SD7V16 variable capacity type.

The capacity of the compressor varies starting from the maximum value ( $161.3 \text{ cm}^3/\text{rev}$ ) and is gradually reduced (up to  $10.4 \text{ cm}^3/\text{rev}$ ) according to the system load variations. - changed outside temperature and/or humidity conditions or sharp variations in the engine load.

This solution is defined as "unlimited variable capacity".

The compressor is the alternating piston type: the variation in capacity is achieved by tilting the connecting rod holder plate with a consequent variation of the piston stroke: the movement of the plate is activated by an internal regulation valve according to the balance of pressure upstream and downstream of the compressor. In particular, a low intake pressure involves the shuttering of the compressor (reduced capacity), whilst a high pressure involves operation at maximum power (maximum capacity).



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- |                        |                                   |
|------------------------|-----------------------------------|
| 1 Diaphragm valve      | 7 Arm                             |
| 2 Pistons              | 8 Slide                           |
| 3 Connecting rods      | 9 Guide                           |
| 4 Connecting rod plate | Pa Intake pressure                |
| 5 Shaft                | Pi Pressure inside the compressor |
| 6 Pin                  | Pm Supply pressure                |

#### Operation

The SD7V16 compressor is illustrated in the diagram; it consists of seven pistons (2) and connecting rods (3) fastened to a connecting rod holder plate (4). The rotary motion of the plate (4), on the shaft (5) produces the alternating movement of the pistons.

A change in the plate angle allows an alteration in capacity: maximum inclination (as in the diagram) for maximum capacity; almost zero inclination (vertical position) for minimum capacity (virtually nil).

The plate (4) rotates around the pin (6) hinged on the shaft (5) arm (7).

The movement of the plate (4) in relation to the shaft (5) takes place by means of splining made from a low resistance material.

The plate (4) slides below along a guide (9) via a runner (8) made from a low friction material.

The diaphragm valve (1) controls the flow rate adjustment according to the difference between Pa (intake pressure) and Pi (pressure inside the compressor).

N.B. the solution adopted for this compressor is designed to keep the internal pressure Pi constant, with advantages in terms of ease of adjustment and quiet, smooth operation.

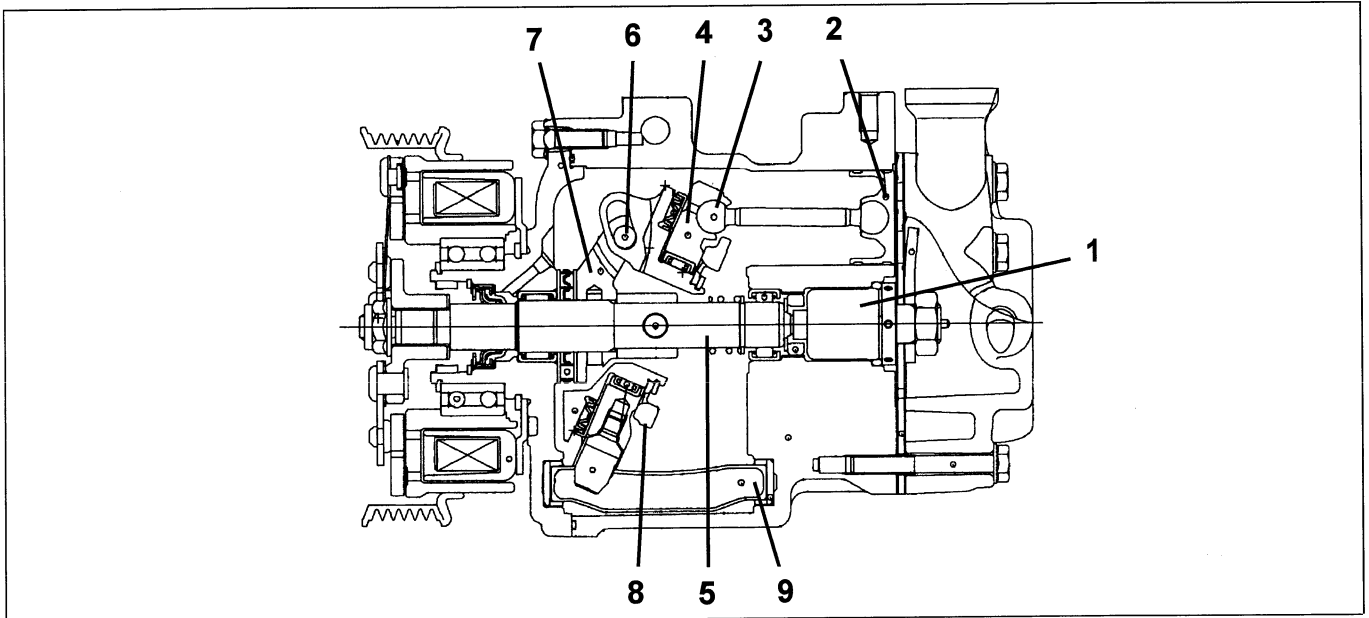
### COMPRESSOR ( 1998 engine)

The compressor fitted on this version is the SANDEN SD6V12 variable capacity type.

The capacity of the compressor varies starting from the maximum value (125.1 cm<sup>3</sup>/rev) and is gradually reduced (up to 6.2 cm<sup>3</sup>/rev) according to the system load variations. - changed outside temperature and/or humidity conditions or sharp variations in the engine load.

This solution is defined as "unlimited variable capacity".

The compressor is the alternating piston type: the variation in capacity is achieved by tilting the connecting rod holder plate with a consequent variation of the piston stroke: the movement of the plate is activated by an internal regulation valve according to the balance of pressure upstream and downstream of the compressor. In particular, a low intake pressure involves the shuttering of the compressor (reduced capacity), whilst a high pressure involves operation at maximum power (maximum capacity).



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- |                         |          |
|-------------------------|----------|
| 1. Diaphragm valve      | 6. Pin   |
| 2. Pistons              | 7. Arm   |
| 3. Connecting rods      | 8. Slide |
| 4. Connecting rod plate | 9. Guide |
| 5. Shaft                |          |

### Operation

The operation is the same as described for the previous SANDEN 7V16 compressor.

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### SPECIFICATIONS

#### TABLE SHOWING QUANTITIES OF OIL AND GAS FOR CLIMATE CONTROL SYSTEM

The table below summarizes the types of oil and the quantities of oil and coolant.

ENGINE TYPE	COMPRESSOR	TYPE OF OIL	QUANTITY OF OIL (cm <sup>3</sup> )	QUANTITY OF GAS (g)
1596 16V	HR V5	UNICON RL 488	265	600 ± 25
1998 20V	SD 6V12	SP10	135	600 ± 25
1910 JTD	SD 7V16	SP10	135	600 ± 25

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