

Number	93
Subject	RAS FS2 / FS3 / FSG / FXG
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The compressors fitted in the RAS 8 to 20FS2 / FS3 & FSG are classed as Oil Less (i.e. there is only enough oil for initial lubrication).

When a compressor has failed the oil quantity and quality in the oil separator **must** be checked before the installation of a new compressor. This is to ensure the quantity of oil is correct and the quality of the oil is OK (i.e. not acidic or dirty).

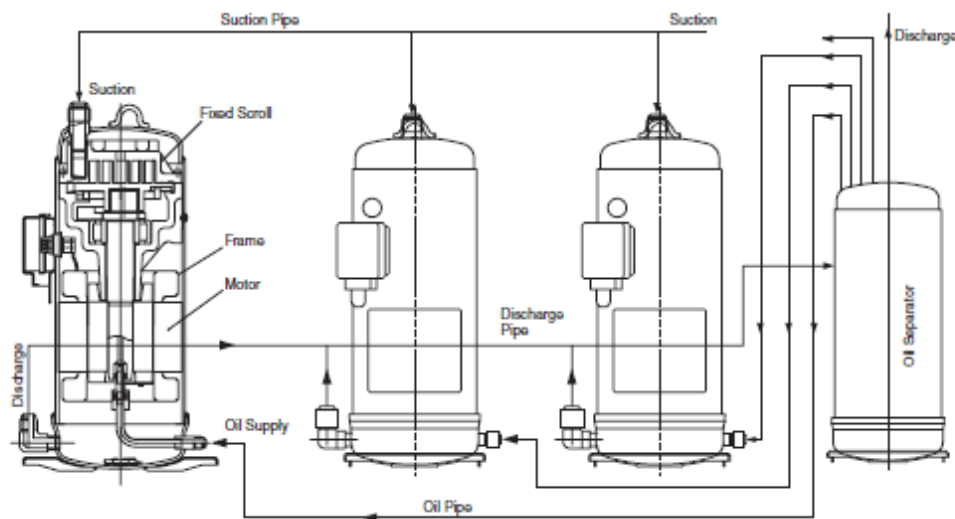
If the oil level is low or the quality is poor a fresh charge of oil will be required, please see the end of this document for the quantity & part nos.

### Below is the compressor layout for a typical RAS 8 to 20 FS2/FS3/FSG/FXG

#### 3.4.3 Structure

The compressor has the structure for oil supply from the outer oil separator. (8 to 20HP)

The inside of the oil separator is at high pressure, and the surface temperature of the oil separator is as high (60C° to 110C°) as the compressor.



#### ● Compressor Type

RAS-5FSG and 5FS3: Inverter Compressor x 1

RAS-8FSG, 10FSG, 8FS3, 10FS3, 8FXG, 10FXG, 8FX3 and 10FX3:

Inverter Compressor x 1 and Constant Speed Compressor x 1

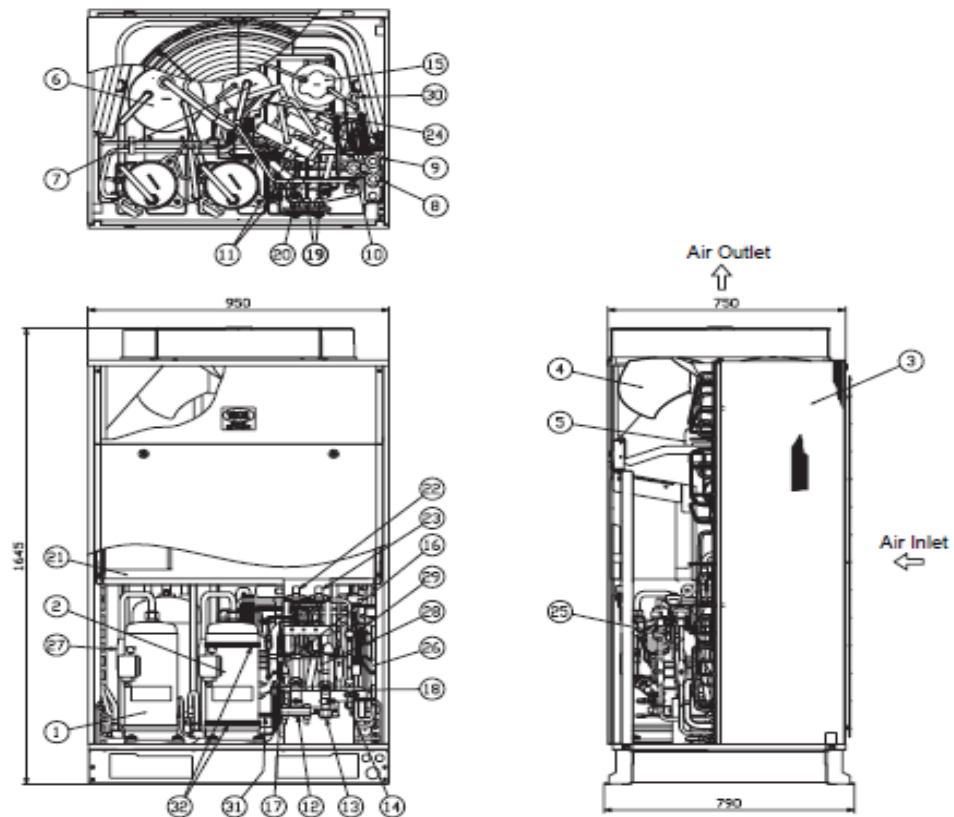
RAS-16FSG and 16FS3: Inverter Compressor x 1 and Constant Speed Compressor x 2

RAS-20FSG, 24FSG1, 30FSG1, 20FS3, 24FS5 and 30FS5:

Inverter Compressor x 1 and Constant Speed Compressor x 3

Seen from the front side of the unit, the one compressor at the left is the inverter compressor and other compressor(s) is(are) constant speed type.

# Technical Bulletin



No.	Part Name
1	Compressor inverter
2	Compressor constant speed
3	Heat exchanger
4	Propeller Fan
5	Fan Motor
6	Accumulator
7	Oil Separator
8	Micro-Computer Control Ex. Valve For Lower H. Ex.
9	Micro-Computer Control Ex. Valve For Upper H. Ex.
10	Micro-Computer Control Ex. Valve For Gas Bypass
11	Reversing Valve
12	Stop Valve Low Pressure Gas Line
13	Stop Valve High Pressure Gas Line
14	Stop Valve Liquid Line
15	Liquid Receiver
16	Check Joint (Low)

No.	Part Name
17	Check Joint (High)
18	Check Joint (for Oil separator)
19	Solenoid valve (Gas Bypass)
20	Solenoid valve (Gas Bypass)
21	Electrical Box
22	Low Pressure Sensor
23	High Pressure Sensor
24	High Pressure Switch for Protection
25	Strainer (3/8)
26	Strainer (1/2)
27	Strainer (3/4)
28	Check Valve (5/8)
29	Sight Glass
30	Dryer
31	Oil Heater (for Oil Separator)
32	Crankcase Heater (for Compressor)

The oil can be checked by removing a sample from the ¼” port at the bottom of the **Oil Separator** (Item 7) & the **Check Joint** (for the Oil Separator item 18). If there is pressure in the system the oil will be pushed out through the ¼” line, and to recharge it use the same port by using an oil hand pump.

Please note the Oil Separator & Check Joint may be in different positions to the ones shown in the above diagram

**We strongly recommend that a “clean up” is carried out if acid is present or if the oil is black, by using an appropriate flush and clean up filters. Please also ensure the oil way lines are clear at the compressors when pressure is applied to the oil separator**

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Please ensure that you only use Hitachi's own oil when re-charging the system, **failure to so do may invalidate any potential compressor warranty claim.**

Below are listed the quantity of oil required per units and the part nos. of the oil.

## Quantity of Oil need per unit

RAS 8 & 10FS2/3/G – 4.1 Litre

RAS 8/10FXG – 7 Litres

RAS 16 FS3/G – 6.1 Litre

RAS 20FS3/G – 8.2 Litre

## Oil Part Nos.

For R22 – P26419 (Only available in 20 litre drums)

For R407C – E01087 (Available in 1 & 5 Litre drums)