

OIL SEPARATORS

“ADVANCED OEM’S TECHNOLOGY”

SPECIFICATIONS

- Suitable for **R12, R22, R505, R134a, R404A, R507** as well as all **CFC, HCFC** and **HFC** and their specific lubricants.
- **MAXIMUM WORKING PRESSURE: 31 bar** (450 psi).
- **BURST PRESSURE: 175 bar** (2500 psi).
- **MAX. WORKING PRESSURE FOR STAINLESS STEEL OIL FLOAT: 62 bar** (880 psi).
- **MAX WORKING PRESSURE FOR RETURN OIL FLOAT MECHANISM: 28 bar** (400 psi).
- **CONNECTIONS:** “**ODS**” for copper tubing.
“**FPT**” for female national pipe thread.
- **OIL RETURN CONNECTION: 3/8” flare male SAE** (on top).
- Ferrous metals and other particles present in the refrigerant/oil mixture are trapped by copper fine mesh screens at inlet and outlet and a magnetic pin inside the separator itself.
- A special baffle-plate prevents oil being carried over with the leaving refrigerant.
- **CE** approved (PED).

WHY ?

- A properly sized oil separator will efficiently separate all oil from the refrigerant vapour (high pressure side) and return this oil back to the compressor unit (low pressure side).
- As a result, the following advantages will be achieved:
 - A constant oil level in the compressor crankcase.
 - An extended compressor life time.
 - A clean and well balanced refrigerant circuit with an effective heat transfer in the evaporator and condenser.

HOW ?

- The refrigerant vapour will always contain oil vapour/liquid and therefore, the “**ITE**” OIL SEPARATORS are designed to operate:
 - A positive tornado change in the direction of the vapour mixture results in an initial separation of heavier oil particles.
 - The initial high velocity reduction of the oil vapour/liquid results in an oil condensation against the separator innerwall.
 - The oil returns through a float mechanism, back to the compressor crankcase.
 - Only clean refrigerant vapour continues towards the condenser under its original velocity.

WHERE ?

- The OIL SEPARATOR should be positioned in the discharge line between Compressor and condenser and be securely mounted in a vertical position (refer to instruction sheet **801-GB**).

SELECTION ?

1-CONNECTIONS:

Inlet and outlet connections must be the same size (or larger) than the discharge line (not under).

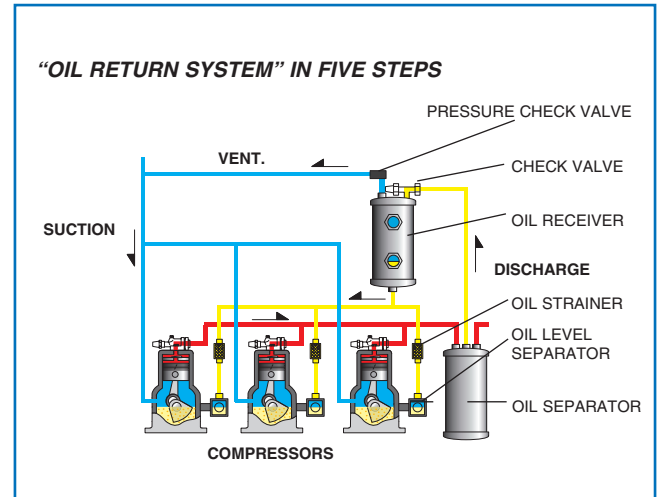
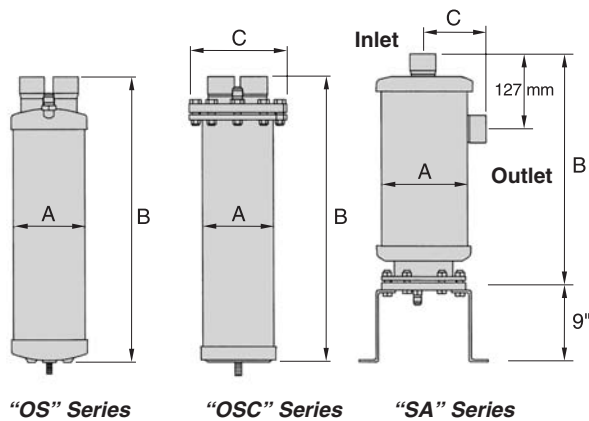
2-NOMINAL CAPACITY/VOLUME:

The efficiency of separation depends very much on the nominal capacity/volume ratio of the separator (see the capacity table). Therefore in multi-compressor unit running at full output, a single separator might do properly the job. However, in case of power reduction (one or more compressors being switched off) the separator will be oversized and less efficient during that time. In such a case, more than one separator should be considered and selected in accordance with the various requirements of the power reduction situation.

3-OIL PRE-CHARGE:

After installation and before starting, do not forget the oil pre-charging. Fill the separator with the suitable oil pre-charge (see the table).





SELECTION - CAPACITY TABLE - ORDERING

- NOMINAL CAPACITIES ACCORDING TO EVAPORATING TEMPERATURES.
- CAPACITIES SHOWN IN kW (1 kW = 860 Fg/h = 0,284 US TON OF REFRIGERATION).

“OS” COMPACT SERIES

PART NR.	END CONN.	DIMENSIONS (mm)			R22		R502		R134a		R404A R507		Maxi Flow (m ³ /h)	Oil pre-charge' (cl)	Weight (kg)
		A	B	C	-40°C	+5°C	-40°C	+5°C	-40°C	+5°C	-40°C	+5°C			
TYPE S	(ODS)														
OS-81	3/8"	102	210	-	3,5	5,3	3,5	5,3	2,6	3,5	3,5	5,3	1,7	34	2,3
OS-82	1/2"	102	261	-	5,3	7,1	5,3	7,1	3,5	5,3	5,3	7,0	2,5	34	2,7
OS-85	5/8"	102	362	-	15,8	19,3	16,7	20,2	10,5	14,1	14,1	19,3	6,8	34	3,2
OS-87	7/8"	102	451	-	24,6	28,1	26,4	29,9	15,8	19,3	22,8	29,9	11,0	34	4,1
OS-88	1 1/8"	102	534	-	31,6	36,9	33,4	40,4	21,1	26,4	28,9	38,7	13,6	34	4,6
OS-90	1 3/8"	102	540	-	40,4	47,5	41,2	51,0	28,2	33,4	36,9	49,2	17,0	34	4,6

“OSC” CLEANABLE SERIES

PART NR.	END CONN.	DIMENSIONS (mm)			R22		R502		R134a		R404A R507		Maxi Flow (m ³ /h)	Oil pre-charge' (cl)	Weight (kg)
		A	B	C	-40°C	+5°C	-40°C	+5°C	-40°C	+5°C	-40°C	+5°C			
TYPE S	(ODS)														
OSC-85	5/8"	102	362	139,7	15,8	19,3	16,7	20,2	10,5	14,1	14,1	19,3	6,8	34	5,0
OSC-87	7/8"	102	451	139,7	24,6	28,1	26,4	29,9	15,8	19,3	22,8	29,9	10,2	34	6,0
OSC-88	1 1/8"	102	534	139,7	31,6	36,9	33,4	40,4	21,1	26,4	28,9	38,7	13,6	34	6,4
OSC-90	1 3/8"	102	540	139,7	40,4	47,5	42,2	51,0	28,2	33,4	36,9	49,2	17,0	34	6,4
OSC-92	1 5/8"	102	553	139,7	42,2	49,2	45,7	52,7	38,7	45,8	53,0	67,0	23,8	34	6,4

“SA” HIGH CAPACITY CLEANABLE SERIES

PART NR.	END CONN.	DIMENSIONS (mm)			R22		R502		R134a		R404A R507		Maxi Flow (m ³ /h)	Oil pre-charge' (cl)	Weight (kg)
		A	B	C	-40°C	+5°C	-40°C	+5°C	-40°C	+5°C	-40°C	+5°C			
TYPE S	(ODS)														
SA-507	2 1/8"	152	486	-	87,9	105,4	105,4	123,0	63,3	74,0	84,4	109,0	38,3	85	9,0

REMARKS:

- Before the Oil Separator is installed, an initial charge of oil (same oil that is in the compressor) should be added to it to supply the amount that is held over in the sump of this Separator. See this amount in the Capacity Table expressed in Centilitres (34 Cl = 0,3 Quart & 85 Cl = 0,75 Quart).
- Also note: 1 m³/h = 0,59 CFM and 1 kg = 2,2 lbs.
- ALL Capacities shown are based on +38°C (+100°F) Condensing Temperature and +18°C (+65°F) Suction Gas Temperature and on connection size being same as Compressor discharge Valve.
- If necessary, contact “ITE® “nv for “Selection” and/or “Oil Return System” arrangement in 5 Steps.