



Features

Unicla series IV oil separators have new and improved design features to further enhance the quality and performance of these popular accessories, which have been part of the Unicla range for many years.

The overall diameter of each model separator has been increased to allow Unicla to mould larger hose fittings into the unit whenever required. Also, enhanced dispersion material is now inserted into the separation chamber to assist with the oil separation process during operation.

Use

Oil separators are recommended in systems where the oil return to the compressor is potentially lower than it should be, at risk from a design feature in the system, or from adverse conditions created by system operation. These can include:

- Very long hose runs (> 6 metres), particularly in the suction line causing pressure drop and reduced refrigerant and oil flow.

- Low evaporator temperatures as found in transport refrigeration systems, causing oil to pool in the evaporator coil
- Large or multiple heat exchangers providing locations for oil to pool, as found in bus and coach rooftop applications
- Air-conditioning systems where the condensing temperature is greater than 50°C and the evaporating temperature is lower than -5°C
- High-revving and continuous compressor operation causing excessive oil discharge from the compressor in relation to oil return.

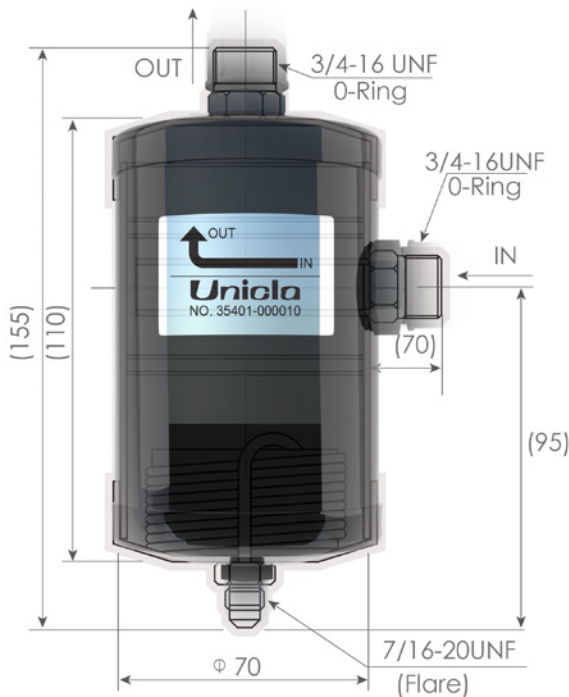
Oil separators are also recommended in systems where evaporator capacity is marginal and oil in the evaporator is affecting system efficiency. Reducing oil in the evaporator improves evaporator saturation temperatures by allowing optimum heat absorption in the refrigerant.

Unicla oil separators will retain >70% of the original compressor oil level (COL) or approximately 40-60% of the recommended total system oil quantity (SOQ).

A-Type Oil Separator

Part No. 35401-000010

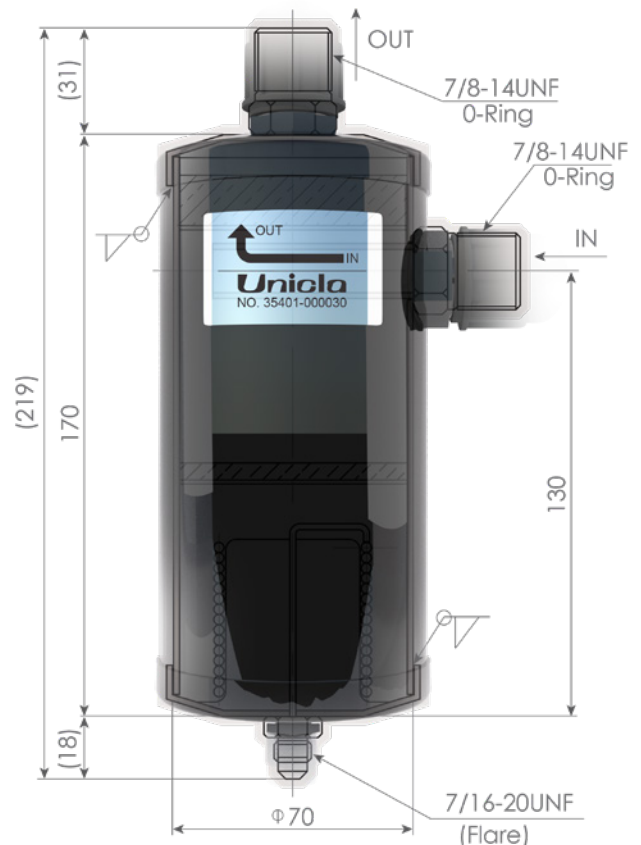
Male insert O-ring connections (#8: 3/4-16 UNF) for easy integration in the discharge line, and a **male flare (7/16-20 UNF)** for the oil return line. The A-Type oil separator is ideal for use with all Unicla 45 to 200 series compressors (**45cc to 200 cc**), and has a rated capacity as described in *Table 1*.



B-Type Oil Separator

Part No. 35401-000030

Male insert O-ring connections (#10: 7/8-14 UNF) for easy integration in the discharge line, and a **male flare (7/16-20 UNF)** for the oil return line. The B-Type oil separator is ideal for use with all Unicla 300 series compressors (**330 to 380 cc**), and has a rated capacity as described in *Table 1*.



D-Type Oil Separator

Part No. 35401-000050

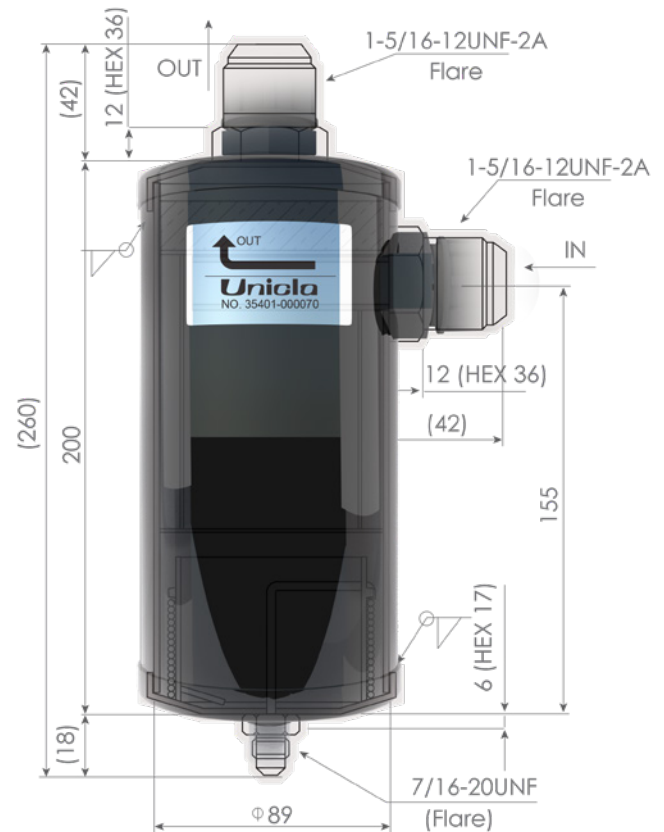
Male insert O-ring connections (#12: 1-1/16-14 UNF) for easy integration in the discharge line, and a **male flare (7/16-20 UNF)** for the oil return line. The D-Type oil separator is ideal for use with all Unicla 330 series compressors (**330 to 380 cc**) where the suction and discharge line length exceeds four metres in length, and has a rated capacity as described in *Table 1*.



F-Type Oil Separator

Part No. 35401-000070

Male flare connections (#16: 1-5/16-12 UNF-2A) for easy integration with the discharge line, and a **male flare (7/16-20 UNF)** for the oil return line. The F-Type oil separator is ideal for use with all Unicla UWX series compressors (**508 to 675 cc**), and has a rated capacity as described in *Table 1*.



Pressure			Oil return rate		
MPA	PSI	KPA	A Type	B Type	D/F Type
3	435	3000	40 ml/min	60 ml/min	92 ml/min
2	290	2000	30 ml/min	40 ml/min	64 ml/min
1	143	1000	10 ml/min	13 ml/min	21 ml/min
0.75	108	750	8 ml/min	10 ml/min	16 ml/min

Table 1.

Unicla Universal Oil Separator Brackets

1. **A-Type:** Part No. OSB00010
2. **B-Type:** Part No. OSB00030
3. **D-Type:** Part No. OSB00050
4. **F-Type:** Part No. OSB00070

NOTE: All Unicla oil separators are supplied with a bracket



Fittings, Blanking plugs and Pressure switch fittings

All Unicla compressors (45 to UWX series) have consistent M12 x 1.00 mm access ports at the top, rear and bottom for easy interchange of blanking plugs, service valves, oil return and pressure switch fittings.

Oil Return Fitting

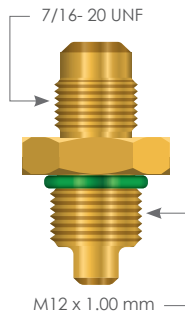
Part No. 42203-000161

Connection

Male flare (7/16- 20 UNF) into compressor port M12 x 1.00 mm

Application

Supplied as standard on all Unicla F model compressors, and 200 to UWX series compressors.



Oil Return Fitting

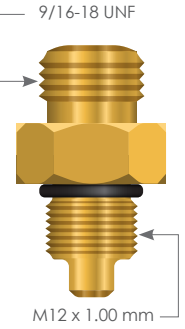
Part No. 42203-000240

Connection

Male ORFS (9/16-18 UNF) into compressor port M12 x 1.00 mm

Application

Special oil return fitting (O-ring face seal) commonly found in most leading direct drive transport refrigeration systems such as Carrier Transicold and Thermo King.



Blanking Plug

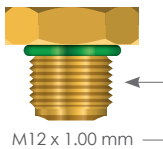
Part No. 13201-000010

Connection

M12 x 1.00 mm.

Application

To blank off any access port.



Pressure Switch Fitting

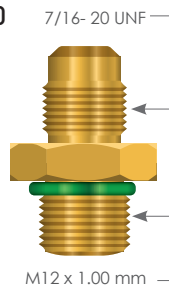
Part No. 42203-000150

Connection

Male flare with Schrader valve (7/16- 20 UNF) into compressor port M12 x 1.00 mm

Application

Direct installation of a variety of switches to both the low- and high-side access ports.



Oil Return Converter Fitting

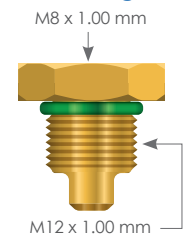
Part No. 42203-000210

Connection

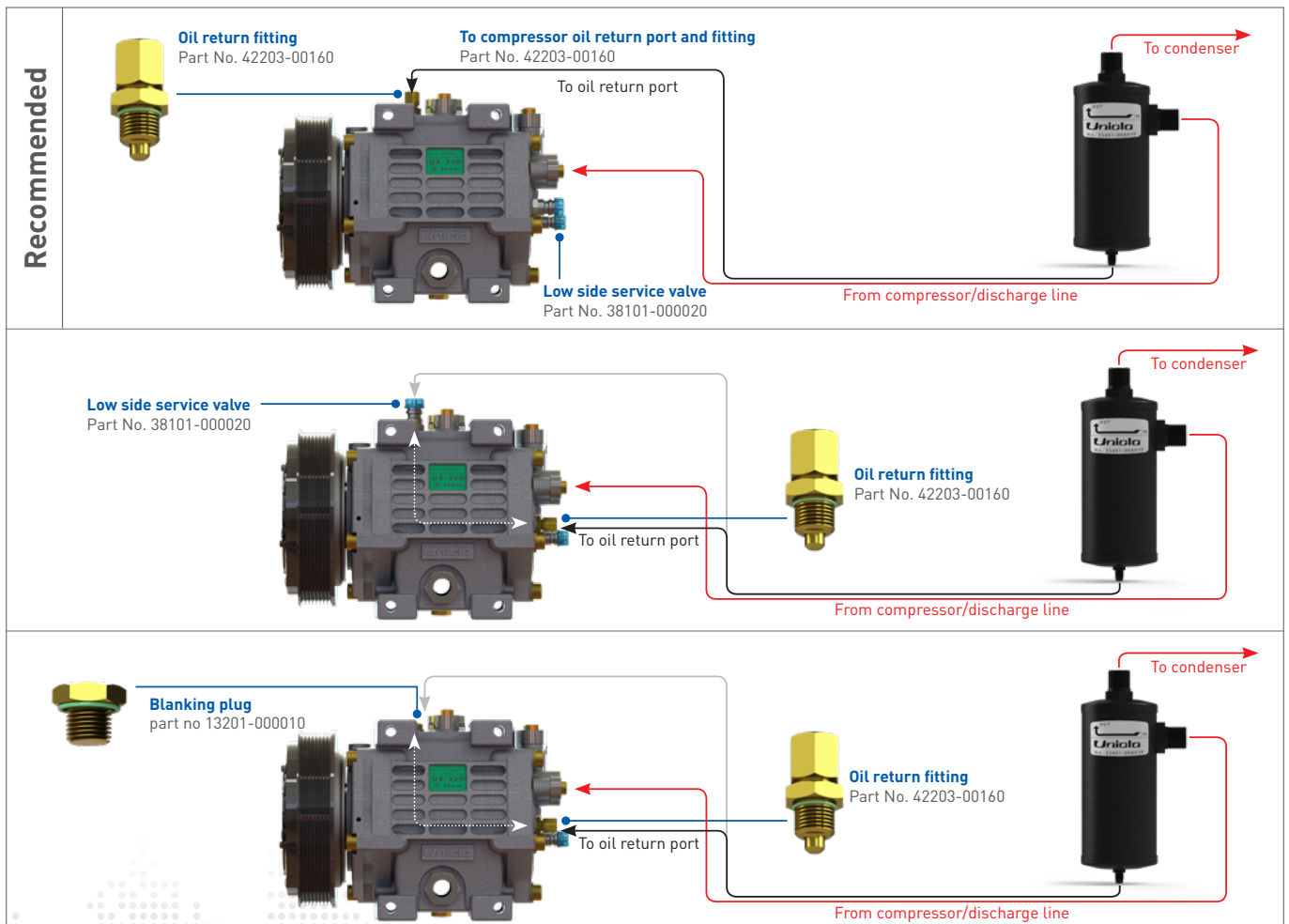
M8 x 1.00 mm into compressor port M12 x 1.00 mm

Application

Converts standard Unicla compressor access port from M12 x 1.0 to M8 x 1.00 mm, which allows use of alternative oil return fittings commonly found on transport refrigeration systems.



Connection options for Unicla oil separator



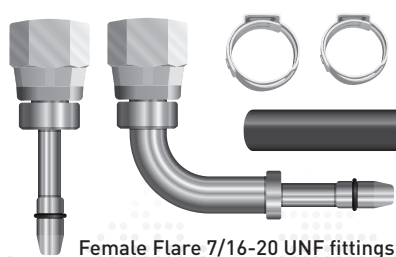
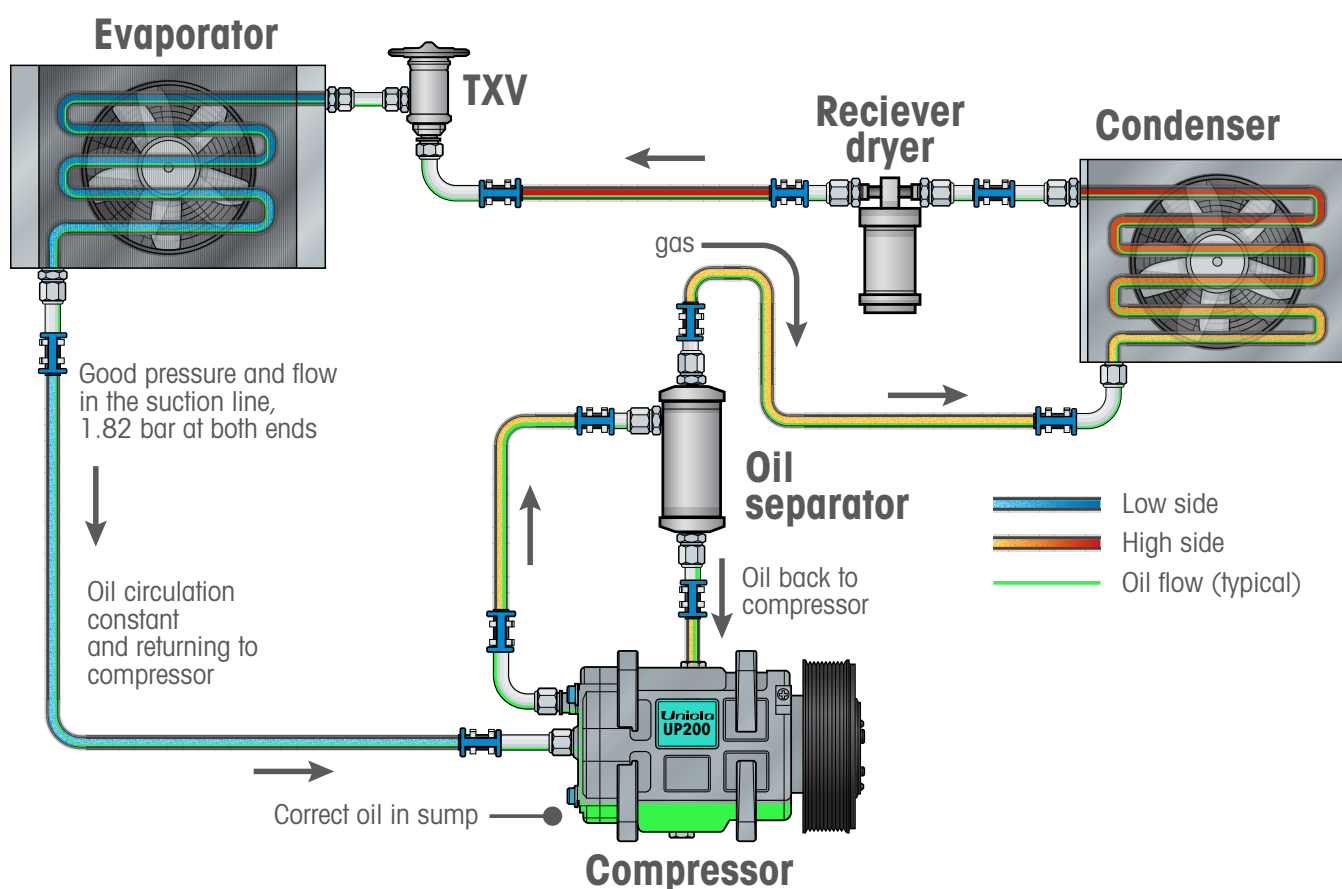
Recommended Oil

Each Unicla compressor is fitted with specific oil. The above chart outlines the recommended selection of oil and refrigerant for common applications. However, each compressor is labelled separately with the refrigerant and oil type to be used.

Use **ONLY** the recommended refrigerant and oil.

Unicla Oil	Type	Viscosity @ 40°C	Viscosity @ 100°C
Unidap 3	POE32	32.50	5.80
Unidap 6	POE68	65.50	9.30
Unidap 7	PAG56	56.00	10.85
Unidap 8	PAG46	48.01	10.51
Unidap 9	PAG46 HD	46.00	9.70
Unidap 10	PAG100	100.00	21.00

The following diagram shows a Unicla oil separator installed into the circuit with the oil return line connected to the top of the compressor oil return port, and the added benefit where compressor oil level (COL) is increased and oil in circulation (OIC) is reduced.



Need a reliable oil return line?

Burgaflex 3390 #4 [1/4"] oil return line

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PH: +61 7 5549 4022 | WEB: www.burgaflex.com

Hong Kong

Unit 1109, 11/F., Manhattan Centre,
 8 Kwai Cheong Road, Kwai Chung, N.T.,
 Hong Kong

Ph: +852 2422 0180 Fax: +852 2422 0680

China

Hang Hau Industrial Zone, Hengjiang Management District,
 Cha Shan Town, Dongguan City, Guangdong Province, PRC
 Postal code: 523398

Ph: +86 769 8180 0228 Fax: +86 769 8180 0227

Australia

14 Motorway Circuit
 Ormeau QLD 4208

Ph: +61 7 5549 4000
 Fax: +61 7 5549 4044