



Unicla International Limited

Advanced compressor technology for the world



Unicla 440 & 550 Series Compressors



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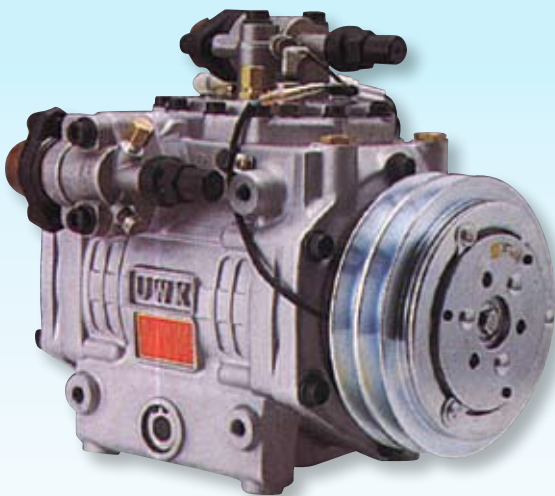
Unicla UWX440 & UWX550

The first 14 cylinder swashplate compressor in the world and only weighs 24 kilograms



Big Performance...

**UWX440 - 23 Kilowatt output
UWX550 - 26 Kilowatt output**



Quiet Efficient Operation...

Less pulse noise and vibration

Features

Unicla 440 and 550 series compressors feature the latest technology in swashplate operation and design. Unicla has developed these new 14 cylinder compressors specifically for the purpose of increasing capacity without causing major gains in overall weight and size. They are the first 14 cylinder compressors of this type in the world and specifically built for the bus and coach market or for applications where 15 to 30 kilowatt capacity is required.

The compressors are 500cc (440 series) and 600cc (550 series) respectively. Both only weigh 24 kilograms each, with impressive dimensions of 324mm length X 188mm width X 303mm height.

The compressors have a remarkably smooth and quiet operation with the lowest vibration level from any compressors of this size in the market today. With the current demands of modern transport, these compressors allow system designers to meet the most stringent environmental and efficiency requirements.

Two distinct models are available

UWX440 R134a refrigerant – Multi direct mount type (500cc capacity)

UWX550 R134a refrigerant – Multi direct mount type (600cc capacity)

Mounting

Unicla 440 and 550 series compressors are available in special UWX configuration, which is the Unicla system of allowing multiple direct mounting points on the compressor.

Four mounting points are situated on the left, right and bottom of the compressor, making a total of twelve points. Each point is a 12mm X 30mm threaded hole which allows for excellent flexibility in engine mounting.

Clutches

A range of clutches are available in BB and polygroove, 12 and 24 volt.

Hose Ports

The Suction Port is situated on top of the compressor and the Discharge Port can be taken from either the left or right hand side. Both ports are fitted with a manifold assembly which has back seating capability via a stem valve. The hose flange on each manifold is fitted with a copper male spigot to 35mm (FS) female solder fitting. Service valve and pressure switch access ports are also fitted.

Service valves

Low and High Side service valves are fitted on the hose manifolds, and on the rear cap of the compressor.

Other Design Features...

New Lubrication System

The new 14 cylinder operation features a completely new lubrication system, with oil supplied to the large swashplate area through two oil chambers. The lower chamber is a traditional sump which feeds an oil pump driven from the rear of the crankshaft, and oil is supplied through the centre of the crankshaft and on to the thrust bearings and swashplate. The upper chamber is situated at the suction entry point and features a series of baffles which collects the incoming oil and re-directs it directly on to the top of the moving swashplate.

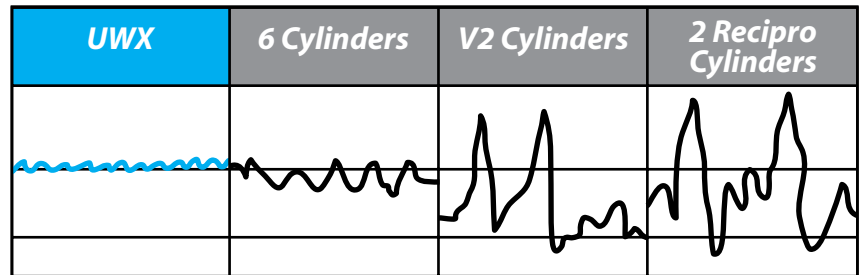
(See diagram)

Crossover Chamber

The 550 and 440 series compressors have a unique discharge gas crossover chamber situated at the top of the crankcase which surrounds the oil chamber carrying the incoming suction gas. As the discharge gas flows through this area, sufficient heat is transferred into the suction side to protect the compressor from liquid slugging. In the event of liquid being present at the suction port, the heat supplied from the crossover chamber will be sufficient to convert this liquid refrigerant into a vapour state.

Smooth Operation

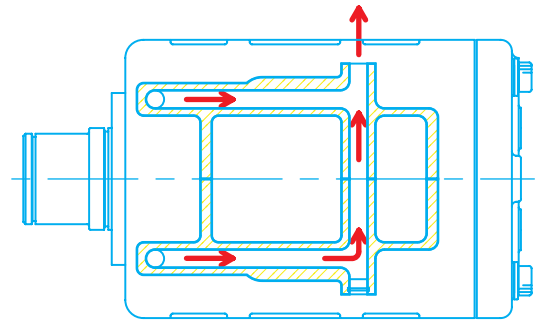
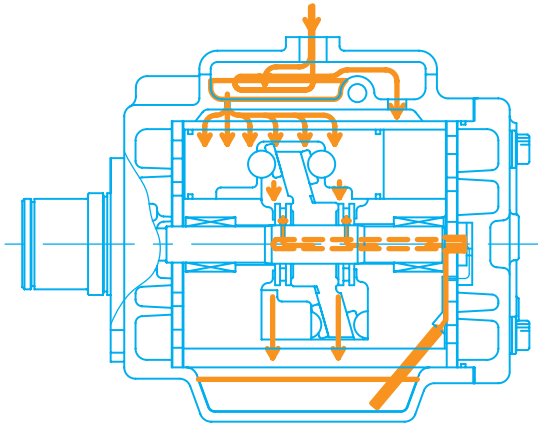
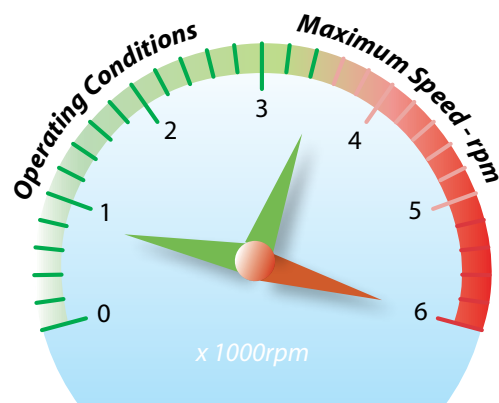
Typical vibration analysis compared to other compressor types.



Clutches available for Unicla 440 & 550 Series Compressors

Type UX330	Pulley Diameter (mm)			Voltage	
	168	178	210	12V	24V
AA Groove	•			•	•
B Groove		•		•	•
BB Groove	•	•	•	•	•
8 Groove	•		•	•	•

Compressor Revolution Chart



*Patent Pending

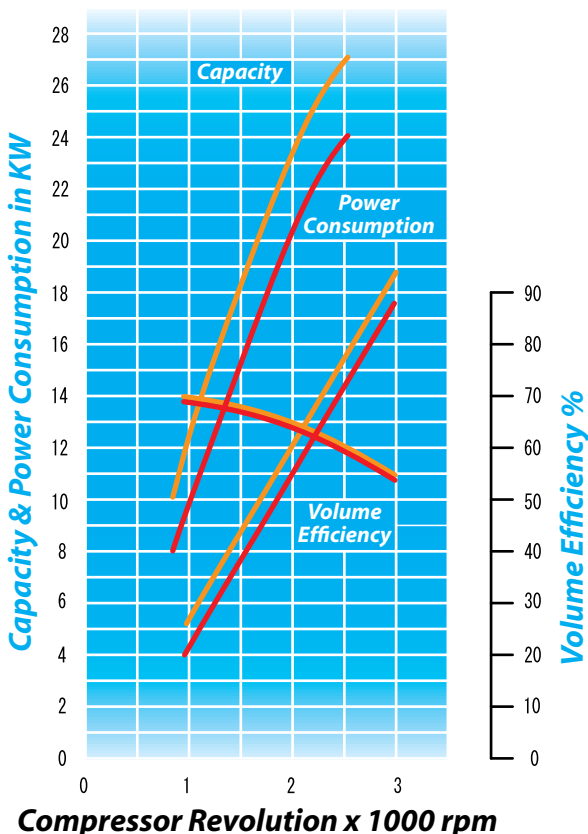
Performance data operating on R134a

Test Conditions:

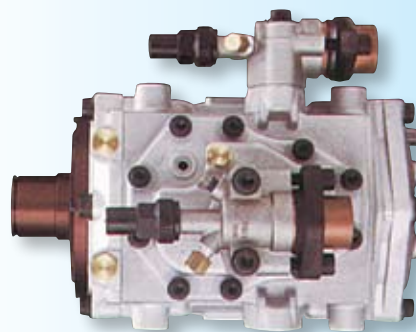
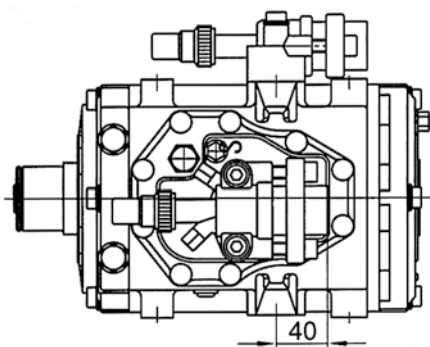
P_{suc}/P_{dis} : 0.18MPaG/1.52MPaG

SH: 10°C SC: 5°C

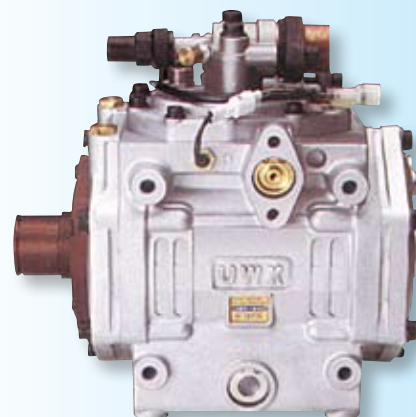
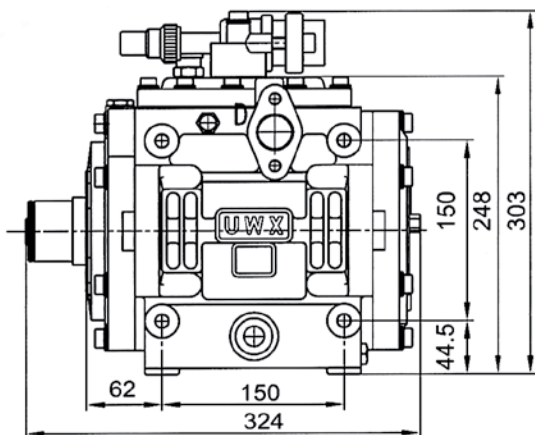
■ UWX550 ■ UWX440



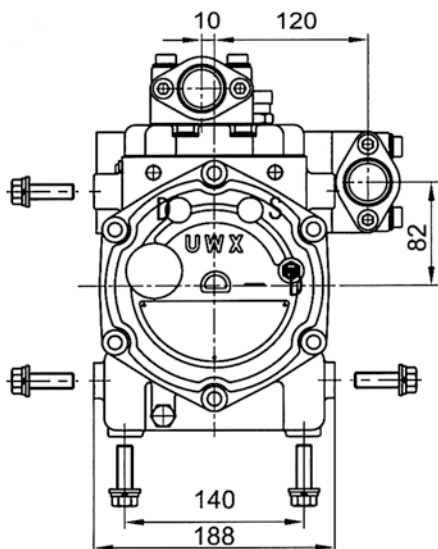
UWX440 / 550 Dimensions (mm)



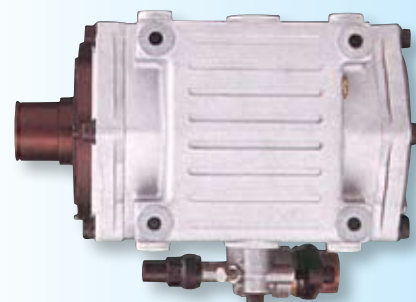
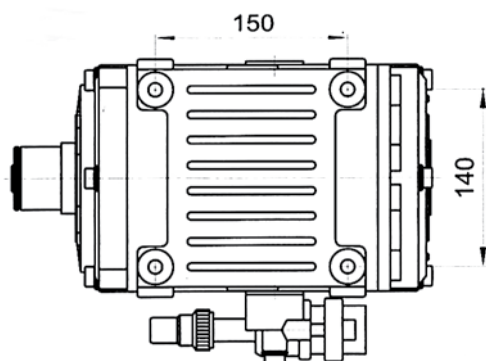
Top View



Side View



Rear View



Bottom View



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