

# Attention - please read carefully before installation



## UWX SERIES FITTING GUIDELINES

### 1. Initial Handling

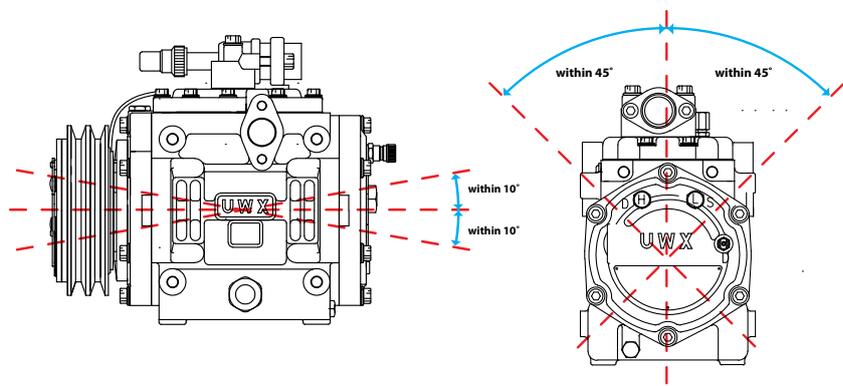
- Remove transit N2 via suction/discharge ports.
- Rotate compressor armature 4-5 revolutions manually to ensure proper lubrication to working assembly components.

### 2. System Cleanliness

System must be free of both solid particle and chemical contamination. If contamination exists appropriate flushing method must be carried out with the assurance that all flushing agent has been evacuated via a triple N2 charge and evacuation.

### 3. Mounting Angle

The limits for mounting UWX are described in the following diagrams:



### 4. Oil quantity requirement/grade

Oil quantity requirements are in addition to the oil installed within the compressor. Unicla UWX series are fitted with 1000cc of oil as standard, this amount is excluded from the quantities required in the complete system below.

The following labels will determine the type of oil in each UWX compressor:



POE type

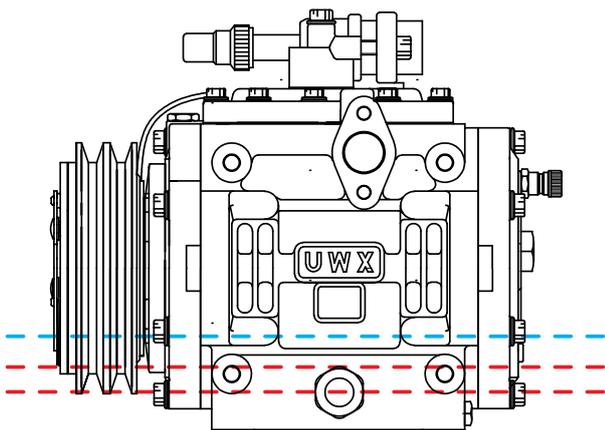


PAG type

Total Refrigerant in system	Oil quantity to add - if suction line < 6 metres in length	Oil quantity to add - if suction line > 6 metres in length
5kg	Nil	500cc
5.5kg	100cc	650cc
6.0kg	200cc	800cc
6.5kg	300cc	950cc
7.0kg	400cc	1100cc
7.5kg	1250cc	1250cc
8.0kg	1400cc	1400cc

**Note:** Oil quantity calculations are contained in the Unicla Service Handbook. Total system oil requirement is based on 20% and 30% if refrigerant charge for systems with <6m suction line and >6m suction line respectively.

**Note:** This diagram shows oil level quantities at the sight glass to indicate actual oil level in the sump.



700cc - 1000cc to top of sump (Normal)

400cc to top of sightglass (Low)

200cc to centre of sightglass (Low)

## 5. Recommended suction line pipe size

These recommendations must be strictly adhered to ensure adequate refrigerant and oil flow back to the compressor. An undersized suction line will cause a pressure drop between the evaporator outlet and the compressor, and create poor refrigerant and oil flow at the compressor, particularly at high revs and low evaporator temperatures.

Unicla 550 series		3m Pipe Length			6m Pipe Length			10m Pipe Length			12m Pipe Length			18m Pipe Length		
RPM	Rated (kW)	Temp Diff (K)	Press Diff (kpa)	Pipe Size mm (inch)	Temp Diff (K)	Press Diff (kpa)	Pipe Size mm (inch)	Temp Diff (K)	Press Diff (kpa)	Pipe Size mm (inch)	Temp Diff (K)	Press Diff (kpa)	Pipe Size mm (inch)	Temp Diff (K)	Press Diff (kpa)	Pipe Size mm (inch)
1000	12.1	0.55	5.7	22 (7/8)	0.29	3	28 (1 1/8)	0.48	5	28 (1 1/8)	0.58	6	28 (1 1/8)	0.87	8.9	28 (1 1/8)
1500	18	0.29	3	28 (1 1/8)	0.58	6	28 (1 1/8)	0.98	10	28 (1 1/8)	0.41	4.2	35 (1 3/8)	0.61	6.3	35 (1 3/8)
2000	18	0.29	3	28 (1 1/8)	0.94	9.6	28 (1 1/8)	0.54	5.6	35 (1 3/8)	0.65	6.7	35 (1 3/8)	0.99	10.1	35 (1 3/8)
2500	26.7	0.64	6.5	28 (1 1/8)	0.44	4.5	35 (1 3/8)	0.74	7.6	35 (1 3/8)	0.89	9.1	35 (1 3/8)	0.56	5.7	41 (1 5/8)

## 6. Recommended compressor speed

The following chart gives the Unicla speed recommendation for UWX440 and UWX550 compressors. This should be strictly followed at all times.

Compressor series	Ideal operation speed rpm	Maximum continuous rpm	Maximum momentary rpm
440/550	1200-2500	3000	4500

## 7. In-line suction mesh screen and screen insert (Part no: 43701-000290)

Must be used in conjunction with Unicla Suction Mesh Screen, and **must** be removed after 2-12 hours from initial commissioning. This is ideal for removal of fine particles from a new system.



Installation of mesh screen and filter insert

## Unicla Suction Mesh Screen (Part no: 43701-000270)

Can be left in place in the suction port to ensure continual removal of heavier particles in the system, however regular inspections of this mesh screen must take place to ensure a permanent blockage does not occur.

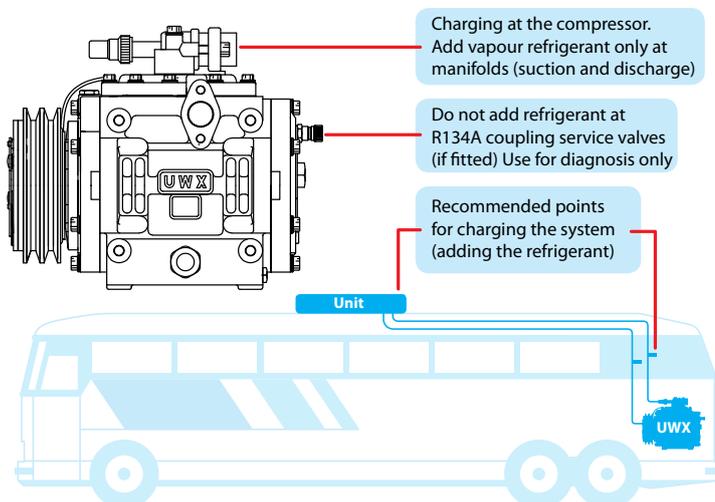


Installation of mesh screen only

*In the case of older systems where the compressor is replacing a previous failure, the system must be flushed and the filter should be strictly monitored to ensure a blockage does not occur. More than one filter may be required over several hours to properly clean the particles in the suction line.*

## 8. Refrigerant charging

When charging the air-conditioning system with refrigerant, it is important that oil is not pushed or washed away from the sump of the compressor; otherwise immediate damage to the compressor internal assembly will occur. To avoid this situation, the position of entry for the refrigerant to the compressor and system must be considered as follows.



**NOTE:** Discharge Inline check valve must be fitted with every UWX series to prevent discharge liquid migration back to the compressor.

Unicla recommend **Emerson Inline Check valves**



### Part numbers:

- CKV00001–Check valve magnetic 1 1/8 pipe
- CKV00004–Check valve magnetic 5/8 pipe
- CK000003–Check valve magnetic 1/2 pipe

**Please note: warranty provisions for this compressor are void if guidelines are not followed**