

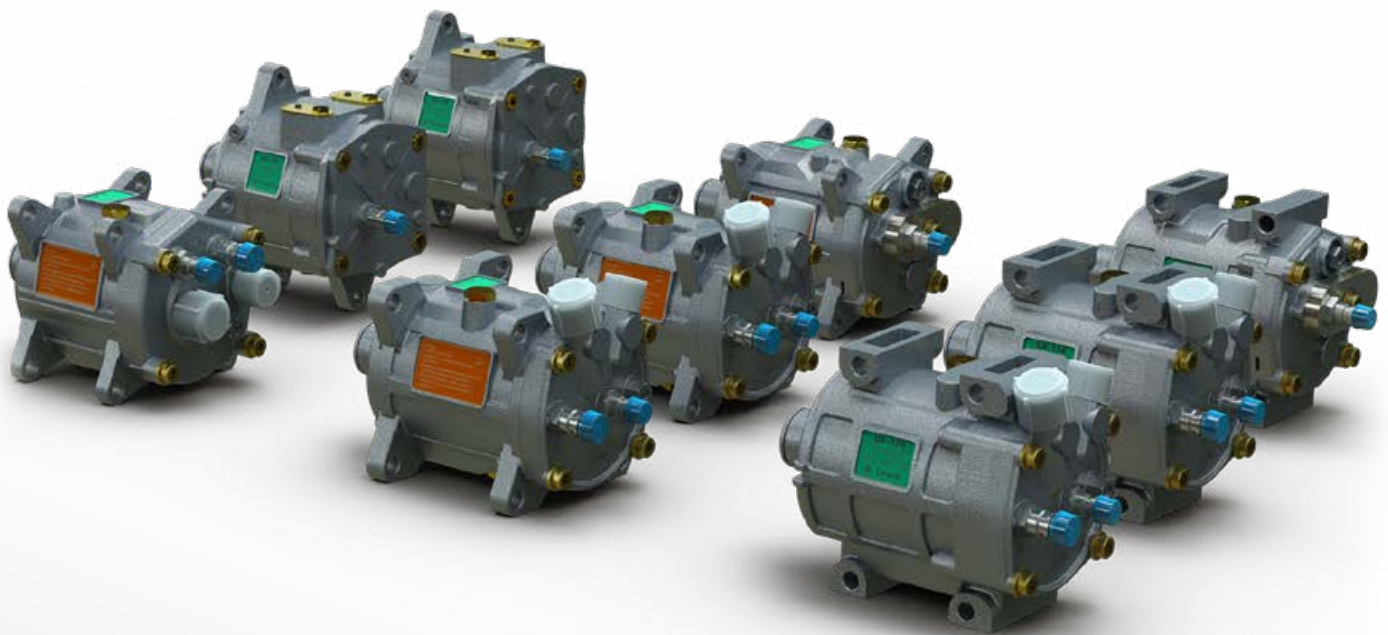


Unicla

Advanced compressor technology for the world

A Group

45-170 Series Compressors





Features

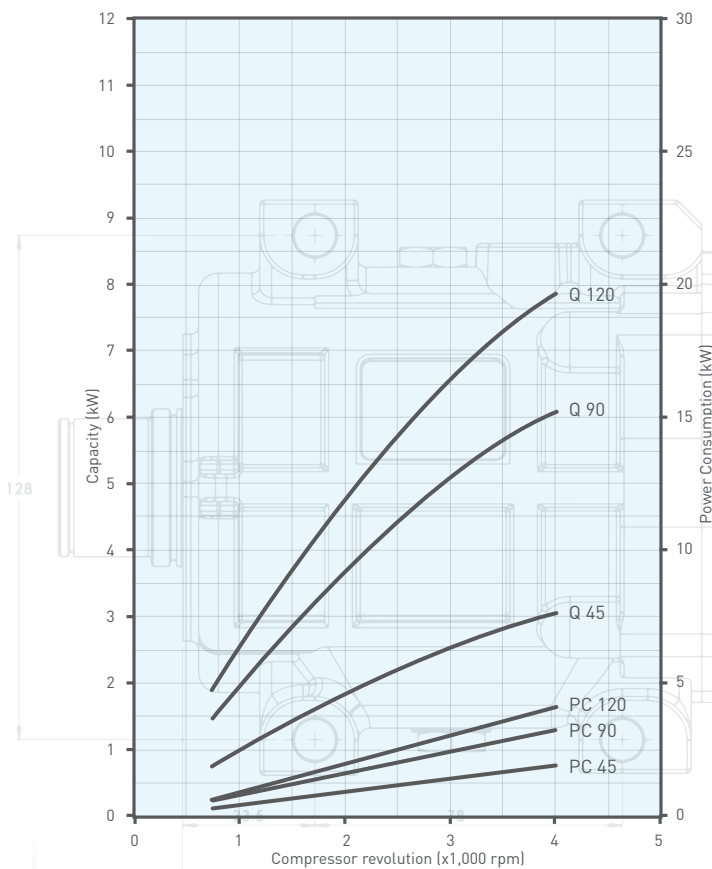
The Unicla 45 to 170 series compressors are an excellent choice for capacity versus overall size for many small- to mid-range single and twin air-conditioning systems, and refrigeration applications where the system capacity requirement is **1- 8 kW**.

Unicla 45 to 170 series compressors provide superior capacity output and are suitable for a wide variety of available engine brackets. All compressors feature the Unicla 10-cylinder swashplate design that delivers extremely quiet and smooth operation, plus high volumetric efficiency through all revolution ranges in both clockwise and counterclockwise rotation.

Refrigerant leakage from compressor body O-rings is eliminated by separately enclosing the entire compressor working assembly in a one-piece crankcase, which also reduces the chance of heat distortion to the outer housing. This results in the compressor maintaining piston alignment and high compression for the duration of its service life, a feature Unicla is well known for.

The UPF model 45 to 170 series compressors have been upgraded internally to suit R404a and R452a low-temperature refrigerants. Features include higher-gauge reed valves, a further refined and polished swashplate and RL32 polyol ester (POE) oil.

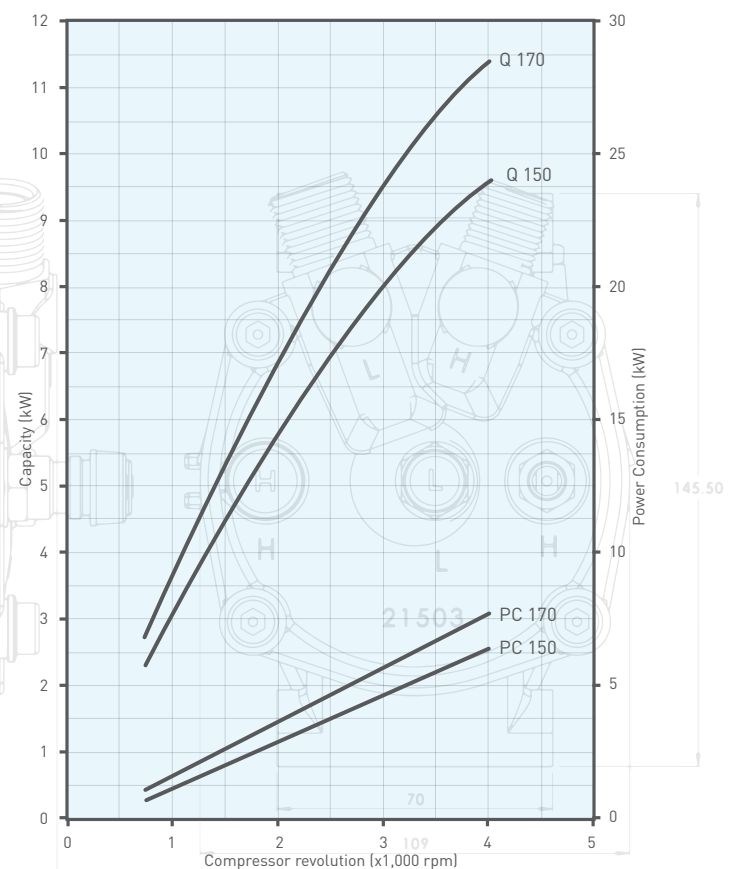
45-90-120 Series Performance - R134a refrigerant



*Based on 9°C suction vapour temperature and 5°C subcooling.
Q - Cooling capacity
PC - Power Consumption

Conditions*	
Discharge pressure	15.2 bar
Condensing temperature	58°C
Suction pressure	1.82 bar
Evaporating temperature	-1°C

150-170 Series Performance - R134a refrigerant



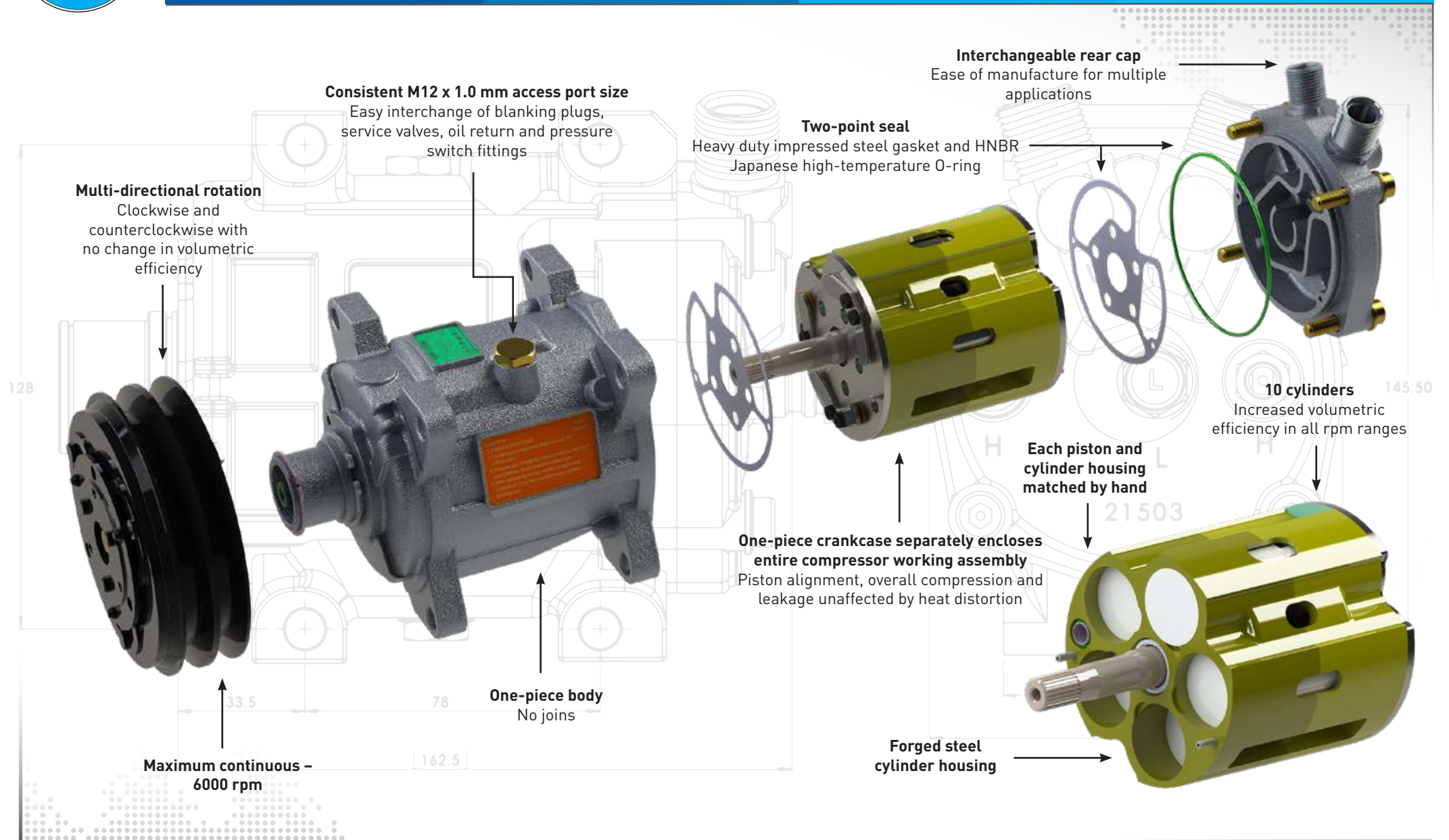
*Based on 9°C suction vapour temperature and 5°C subcooling.
Q - Cooling capacity
PC - Power Consumption

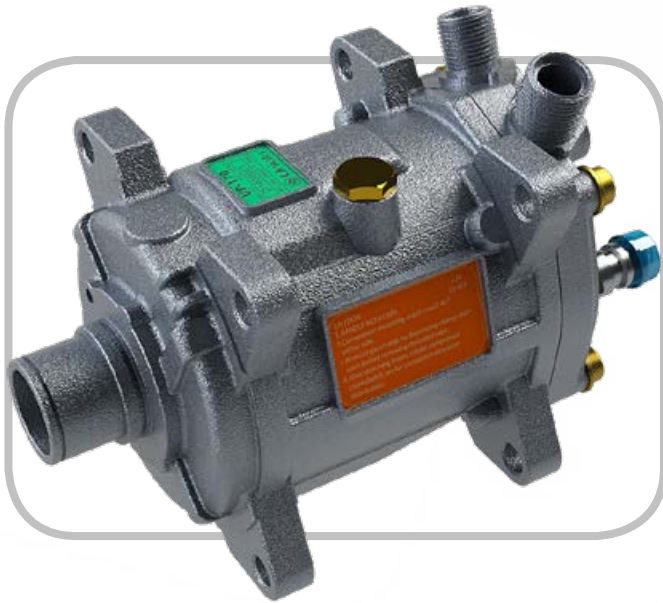
Conditions*	
Discharge pressure	15.2 bar
Condensing temperature	58°C
Suction pressure	1.82 bar
Evaporating temperature	-1°C



Unicla

Advantages 45-170 Series Compressors





Features

- Unicla 10-cylinder swashplate
- Suitable for applications with a system capacity requirement of **5-8 kW**
- Displacement: **172 cc/rev**
- Maximum continuous: **6000 rpm**
- Smooth and quiet operation with excellent performance through all rev ranges
- Clockwise and counterclockwise rotation with no change in volumetric efficiency
- Heavy duty impressed steel gasket and HNBR Japanese high-temperature O-ring (two-point seal)
- Forged steel cylinder housing
- Drop-forged 5050 aluminium pistons with synthetic PTFE heat-treated rings
- Lip seal with high tolerance to heat and operational fatigue
- Genuine NSK bearings throughout

Mounting

The UP and UPF models are compatible with mounting brackets designed for compressors with 83 mm lug spacings and can be interchanged with many compressors used in various applications.

Service valves

Low- and high-side service valves are fitted to the rear cap, including a high-pressure relief valve.

Oil return port

On UP models an oil return fitting – 7/16-20 UNF male flare (Part No. 42203-000160) – can be optionally fitted on top of the compressor and is supplied as standard on UPF models. It has a unique flow design suited to the Unicla oil separator (Part No. OS000010) and is interchangeable with the low-side service valve.

Other ports and fittings

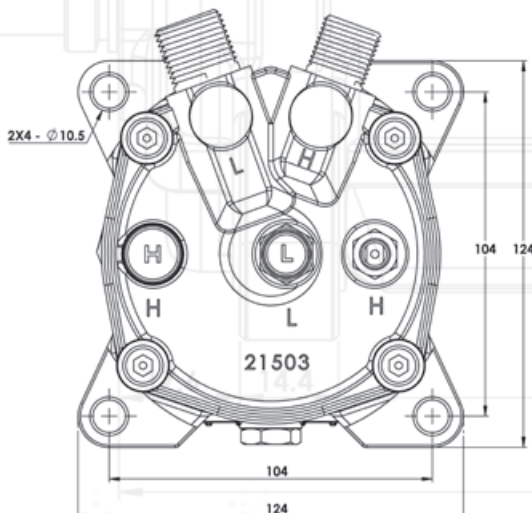
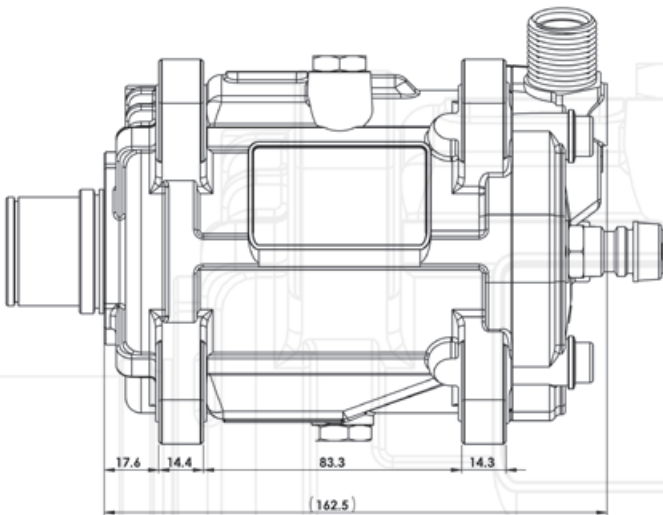
Consistent M12 x 1.0 mm access port size. Easy interchange of blanking plugs, service valves, oil return and pressure switch fittings.

Hose ports

Please see *Clutch, rear cap and hose port options* on page 15.

Clutches

A diverse range of clutches is available for 12V and 24V applications, with or without metal dust covers. Please see *Clutch, rear cap and hose port options* on page 15.



R134a refrigerant		
Compressor	Oil	Mounting
UP170	PAG56 (160 ml)	TM/QP16/15 & SD7H15 compatible
R404a R452a refrigerant		
Compressor	Oil	Mounting
UPF170	POE32 (160 ml)	TM/QP16/15 & SD7H15 compatible



Features

- Unicla 10-cylinder swashplate
- Suitable for applications with a system capacity requirement of **5-8 kW**
- Displacement: **172 cc/rev**
- Maximum continuous: **6000 rpm**
- Smooth and quiet operation with excellent performance through all rev ranges
- Clockwise and counterclockwise rotation with no change in volumetric efficiency
- Heavy duty impressed steel gasket and HNBR Japanese high-temperature O-ring (two-point seal)
- Forged steel cylinder housing
- Drop-forged 5050 aluminium pistons with synthetic PTFE heat-treated rings
- Lip seal with high tolerance to heat and operational fatigue
- Genuine NSK bearings throughout

Mounting

The UX and UXF models are direct mount (bolt-through) and have side mounting points 78 mm apart.

Service valves

Low- and high-side service valves are fitted to the rear cap, including a high-pressure relief valve.

Oil return port

On UX models an oil return fitting – 7/16-20 UNF male flare (Part No. 42203-000160) – can be optionally fitted on top of the compressor and is supplied as standard on UXF models. It has a unique flow design suited to the Unicla oil separator (Part No. OS000010) and is interchangeable with the low-side service valve.

Other ports and fittings

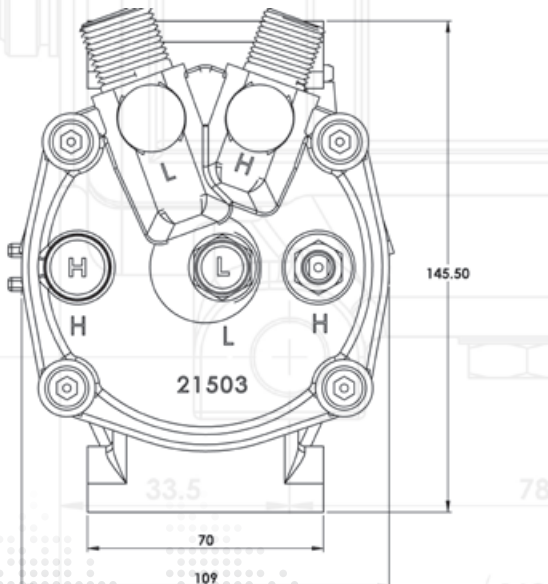
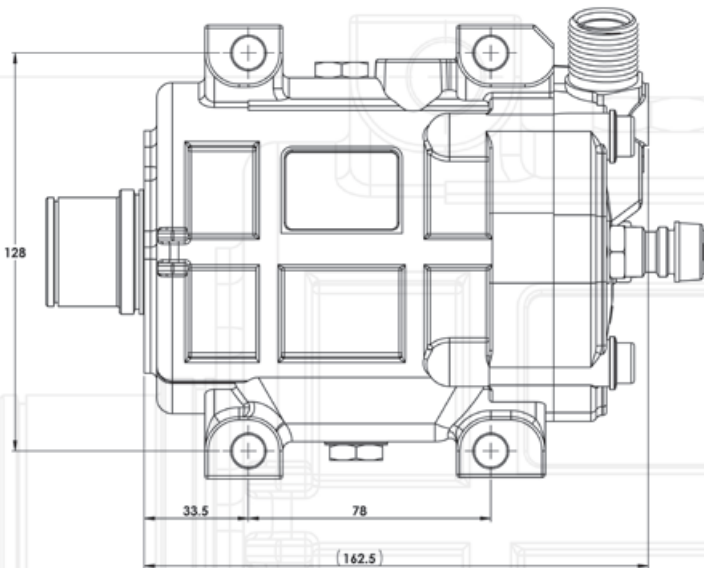
Consistent M12 x 1.0 mm access port size. Easy interchange of blanking plugs, service valves, oil return and pressure switch fittings.

Hose ports

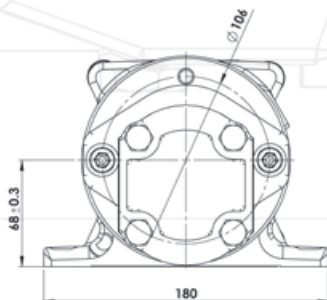
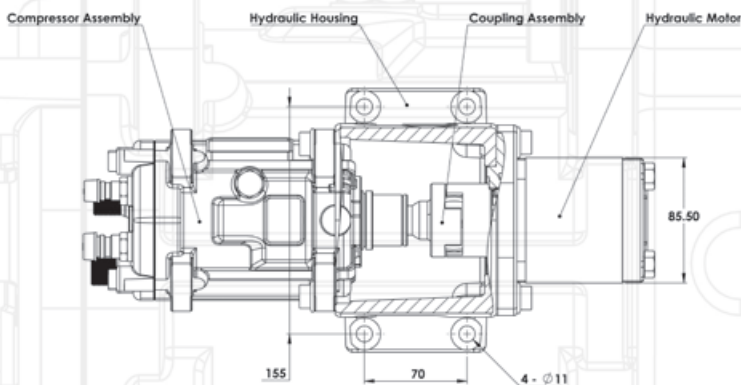
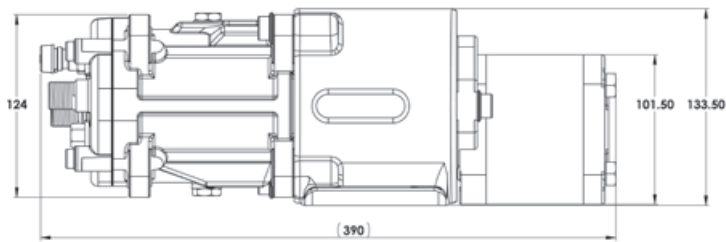
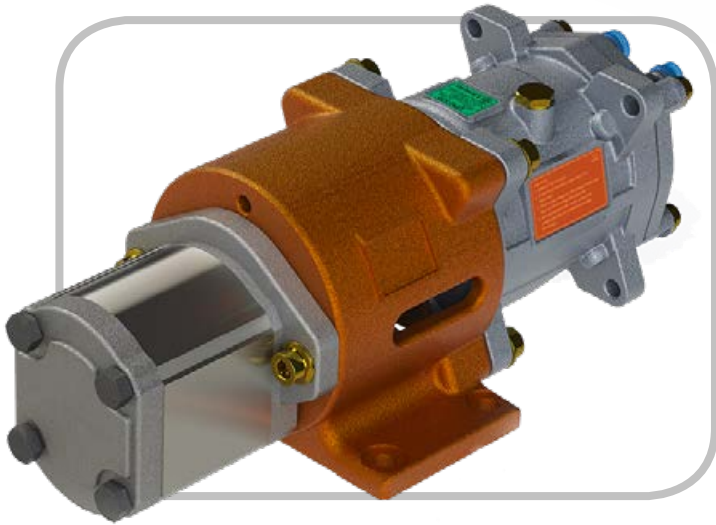
Please see *Clutch, rear cap and hose port options* on page 15.

Clutches

A diverse range of clutches is available for 12V and 24V applications, with or without metal dust covers. Please see *Clutch, rear cap and hose port options* on page 15.



R134a refrigerant		
Compressor	Oil	Mounting
UX170	PAG56 (160 ml)	Direct mount
R404a R452a refrigerant		
Compressor	Oil	Mounting
UXF170	POE32 (160 ml)	Direct mount



Features

The Unicla 170 series Hydraulic Drive compressors are universally adaptable and can be driven by any 11-15 cc hydraulic motor with a standard SAE twin-bolt A-type mounting configuration and 5/8" nine-tooth shaft. The unit can be supplied as a complete housing and compressor kit without the hydraulic motor, or the hydraulic drive housing kit on its own without the compressor.

- Unicla 10-cylinder swashplate
- Suitable for applications with a system capacity requirement of **5-8 kW**
- Displacement: **172 cc/rev**
- Maximum continuous: **6000 rpm**
- Smooth and quiet operation with excellent performance through all rev ranges
- Clockwise and counterclockwise rotation with no change in volumetric efficiency
- Heavy duty impressed steel gasket and HNBR Japanese high-temperature O-ring (two-point seal)
- Forged steel cylinder housing
- Drop-forged 5050 aluminium pistons with synthetic PTFE heat-treated rings
- Lip seal with high tolerance to heat and operational fatigue
- Genuine NSK bearings throughout

Mounting

The UPH and UPHF models are designed to mount to a solid base plate at four points equal to or greater than 180 x 70 mm in diameter.

Service valves

Low- and high-side service valves are fitted to the rear cap, including a high-pressure relief valve.

Oil return port

On UPH models an oil return fitting – 7/16-20 UNF male flare (Part No. 42203-000160) – can be optionally fitted on top of the compressor and is supplied as standard on UPHF models. It has a unique flow design suited to the Unicla oil separator (Part No. OS000010) and is interchangeable with the low-side service valve.

Other ports and fittings

Consistent M12 x 1.0 mm access port size. Easy interchange of blanking plugs, service valves, oil return and pressure switch fittings.

Hose ports

Please see *Clutch, rear cap and hose port options* on page 15.

R134a refrigerant		
Compressor	Oil	Mounting
UHP170	PAG56 (160 ml)	Base mount
R404a R452a refrigerant		
Compressor	Oil	Mounting
UPHF170	POE32 (160 ml)	Base mount



Features

- Unicla 10-cylinder swashplate
- Suitable for applications with a system capacity requirement of **4-6 kW**
- Displacement: **145 cc/rev**
- Maximum continuous: **6000 rpm**
- Smooth and quiet operation with excellent performance through all rev ranges
- Clockwise and counterclockwise rotation with no change in volumetric efficiency
- Heavy duty impressed steel gasket and HNBR Japanese high-temperature O-ring (two-point seal)
- Forged steel cylinder housing
- Drop-forged 5050 aluminium pistons with synthetic PTFE heat-treated rings
- Lip seal with high tolerance to heat and operational fatigue
- Genuine NSK bearings throughout

Mounting

The UP and UPF models are compatible with mounting brackets designed for compressors with 83 mm lug spacings and can be interchanged with many compressors used in various applications.

Service valves

Low- and high-side service valves are fitted to the rear cap, including a high-pressure relief valve.

Oil return port

On UP models an oil return fitting – 7/16-20 UNF male flare (Part No. 42203-000160) – can be optionally fitted on top of the compressor and is supplied as standard on UPF models. It has a unique flow design suited to the Unicla oil separator (Part No. OS000010) and is interchangeable with the low-side service valve.

Other ports and fittings

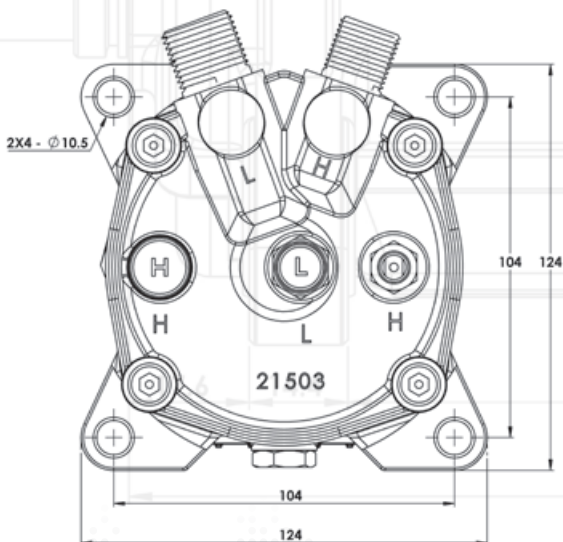
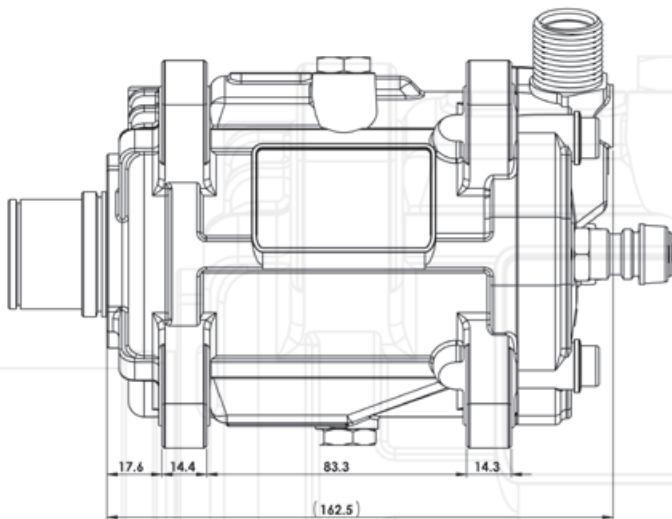
Consistent M12 x 1.0 mm access port size. Easy interchange of blanking plugs, service valves, oil return and pressure switch fittings.

Hose ports

Please see *Clutch, rear cap and hose port options* on page 15.

Clutches

A diverse range of clutches is available for 12V and 24V applications, with or without metal dust covers. Please see *Clutch, rear cap and hose port options* on page 15.



R134a refrigerant		
Compressor	Oil	Mounting
UP150	PAG56 (160 ml)	TM/QP16/15 & SD7H15 compatible
R404a R452a refrigerant		
Compressor	Oil	Mounting
UPF150	POE32 (160 ml)	TM/QP16/15 & SD7H15 compatible



Features

- Unicla 10-cylinder swashplate
- Suitable for applications with a system capacity requirement of **4-6 kW**
- Displacement: **145 cc/rev**
- Maximum continuous: **6000 rpm**
- Smooth and quiet operation with excellent performance through all rev ranges
- Clockwise and counterclockwise rotation with no change in volumetric efficiency
- Heavy duty impressed steel gasket and HNBR Japanese high-temperature O-ring (two-point seal)
- Forged steel cylinder housing
- Drop-forged 5050 aluminium pistons with synthetic PTFE heat-treated rings
- Lip seal with high tolerance to heat and operational fatigue
- Genuine NSK bearings throughout

Mounting

The UX and UXF models are direct mount (bolt-through) and have side mounting points 78 mm apart.

Service valves

Low- and high-side service valves are fitted to the rear cap, including a high-pressure relief valve.

Oil return port

On UX models an oil return fitting – 7/16-20 UNF male flare (Part No. 42203-000160) – can be optionally fitted on top of the compressor and is supplied as standard on UXF models. It has a unique flow design suited to the Unicla oil separator (Part No. OS000010) and is interchangeable with the low-side service valve.

Other ports and fittings

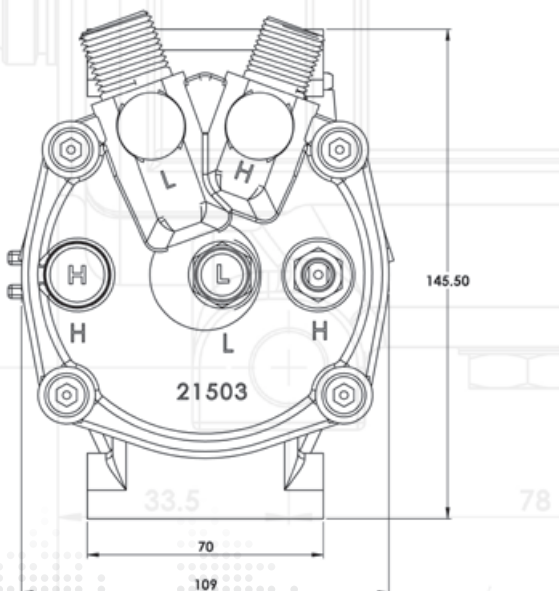
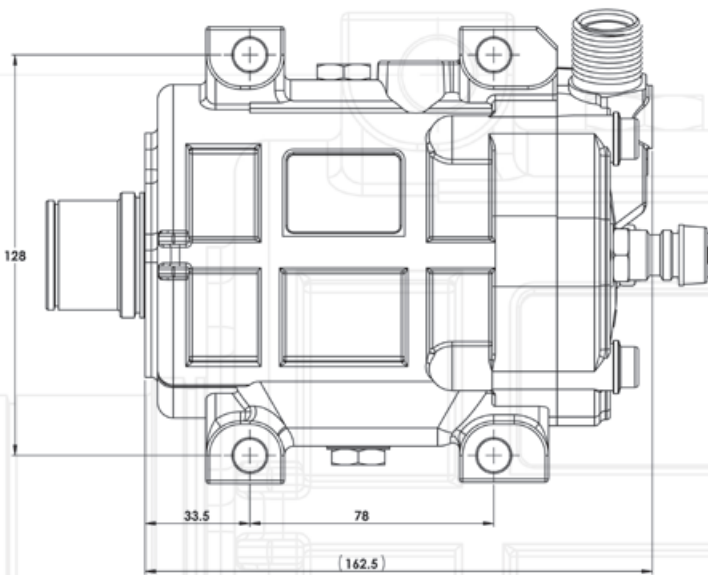
Consistent M12 x 1.0 mm access port size. Easy interchange of blanking plugs, service valves, oil return and pressure switch fittings.

Hose ports

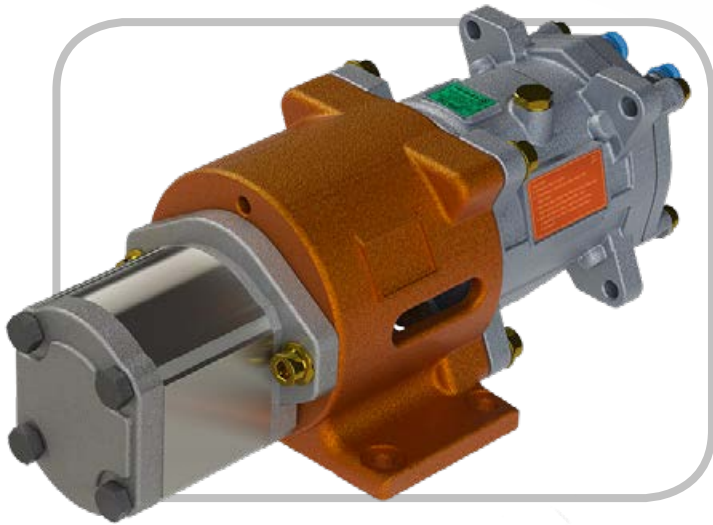
Please see *Clutch, rear cap and hose port options* on page 15.

Clutches

A diverse range of clutches is available for 12V and 24V applications, with or without metal dust covers. Please see *Clutch, rear cap and hose port options* on page 15.



R134a refrigerant		
Compressor	Oil	Mounting
UX150	PAG56 (160 ml)	Direct mount
R404a R452a refrigerant		
Compressor	Oil	Mounting
UXF150	POE32 (160 ml)	Direct mount



Features

The Unicla 150 series Hydraulic Drive compressors are universally adaptable and can be driven by any 11-15 cc hydraulic motor with a standard SAE twin-bolt A-type mounting configuration and 5/8" nine-tooth shaft. The unit can be supplied as a complete housing and compressor kit without the hydraulic motor, or the hydraulic drive housing kit on its own without the compressor.

- Unicla 10-cylinder swashplate
- Suitable for applications with a system capacity requirement of **4-6 kW**
- Displacement: **145 cc/rev**
- Maximum continuous: **6000 rpm**
- Smooth and quiet operation with excellent performance through all rev ranges
- Clockwise and counterclockwise rotation with no change in volumetric efficiency
- Heavy duty impressed steel gasket and HNBR Japanese high-temperature O-ring (two-point seal)
- Forged steel cylinder housing
- Drop-forged 5050 aluminium pistons with synthetic PTFE heat-treated rings
- Lip seal with high tolerance to heat and operational fatigue
- Genuine NSK bearings throughout

Mounting

The UPH and UPHF models are designed to mount to a solid base plate at four points equal to or greater than 180 x 70 mm in diameter.

Service valves

Low- and high-side service valves are fitted to the rear cap, including a high-pressure relief valve.

Oil return port

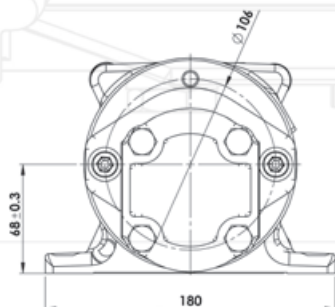
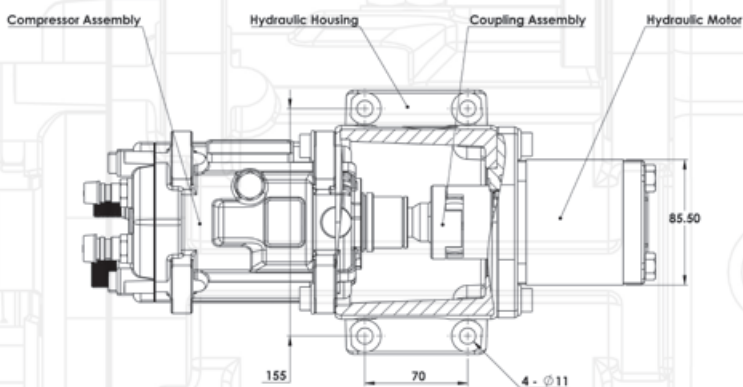
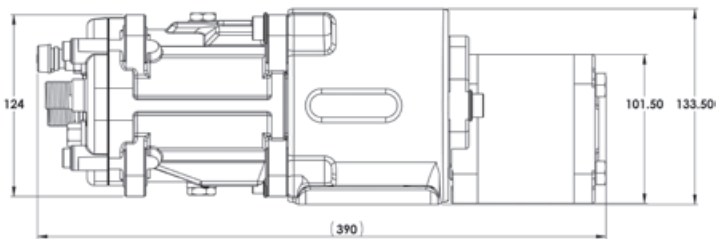
On UPH models an oil return fitting – 7/16-20 UNF male flare (Part No. 42203-000160) – can be optionally fitted on top of the compressor and is supplied as standard on UPHF models. It has a unique flow design suited to the Unicla oil separator (Part No. OS000010) and is interchangeable with the low-side service valve.

Other ports and fittings

Consistent M12 x 1.0 mm access port size. Easy interchange of blanking plugs, service valves, oil return and pressure switch fittings.

Hose ports

Please see *Clutch, rear cap and hose port options* on page 15.



R134a refrigerant		
Compressor	Oil	Mounting
UHP150	PAG56 (160 ml)	Base mount
R404a R452a refrigerant		
Compressor	Oil	Mounting
UPHF150	POE32 (160 ml)	Base mount



Features

- Unicla 10-cylinder swashplate
- Suitable for applications with a system capacity requirement of **3-5 kW**
- Displacement: **119 cc/rev**
- Maximum continuous: **6000 rpm**
- Smooth and quiet operation with excellent performance through all rev ranges
- Clockwise and counterclockwise rotation with no change in volumetric efficiency
- Heavy duty impressed steel gasket and HNBR Japanese high-temperature O-ring (two-point seal)
- Forged steel cylinder housing
- Drop-forged 5050 aluminium pistons with synthetic PTFE heat-treated rings
- Lip seal with high tolerance to heat and operational fatigue
- Genuine NSK bearings throughout

Mounting

The UP and UPF models are compatible with mounting brackets designed for compressors with 73 mm lug spacings and can be interchanged with many compressors used in various applications.

Service valves

Low- and high-side service valves are fitted to the rear cap, including a high-pressure relief valve.

Oil return port

On UP models an oil return fitting – 7/16-20 UNF male flare (Part No. 42203-000160) – can be optionally fitted on top of the compressor and is supplied as standard on UPF models. It has a unique flow design suited to the Unicla oil separator (Part No. OS000010) and is interchangeable with the low-side service valve.

Other ports and fittings

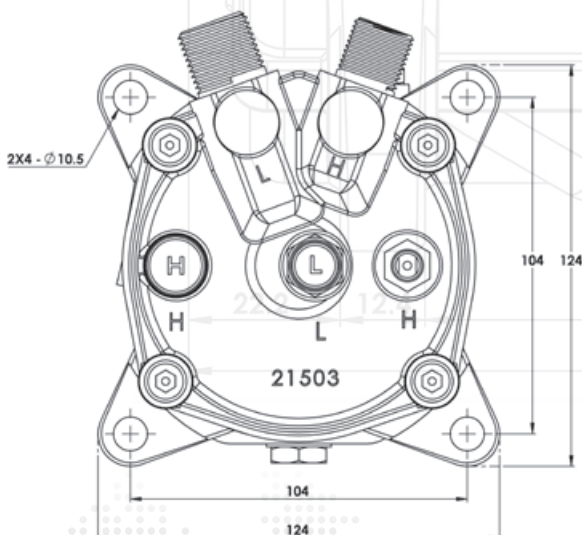
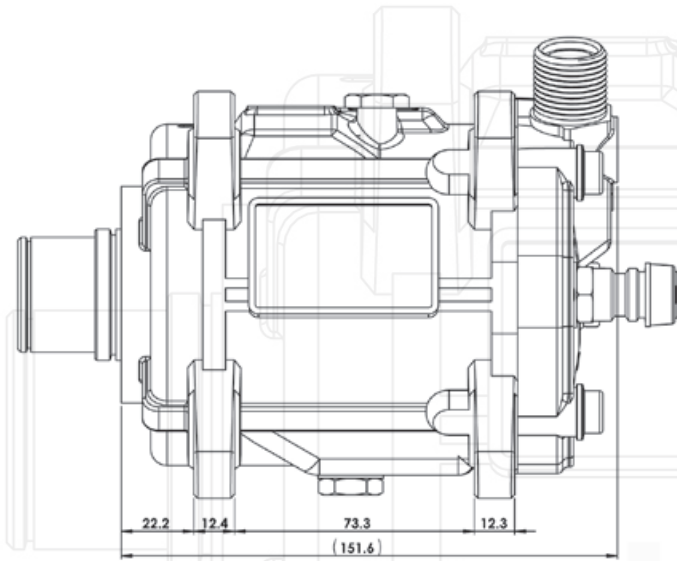
Consistent M12 x 1.0 mm access port size. Easy interchange of blanking plugs, service valves, oil return and pressure switch fittings.

Hose ports

Please see *Clutch, rear cap and hose port options* on page 15.

Clutches

A diverse range of clutches is available for 12V and 24V applications, with or without metal dust covers. Please see *Clutch, rear cap and hose port options* on page 15.



R134a refrigerant		
Compressor	Oil	Mounting
UP120	PAG56 (150 ml)	TM/QP13 & SD7H13 compatible
R404a R452a refrigerant		
Compressor	Oil	Mounting
UPF120	POE32 (150 ml)	TM/QP13 & SD7H13 compatible



Features

- Unicla 10-cylinder swashplate
- Suitable for applications with a system capacity requirement of **3-5 kW**
- Displacement: **119 cc/rev**
- Maximum continuous: **6000 rpm**
- Smooth and quiet operation with excellent performance through all rev ranges
- Clockwise and counterclockwise rotation with no change in volumetric efficiency
- Heavy duty impressed steel gasket and HNBR Japanese high-temperature O-ring (two-point seal)
- Forged steel cylinder housing
- Drop-forged 5050 aluminium pistons with synthetic PTFE heat-treated rings
- Lip seal with high tolerance to heat and operational fatigue
- Genuine NSK bearings throughout

Mounting

The UX and UXF models are direct mount (bolt-through) and have side mounting points 78 mm apart.

Service valves

Low- and high-side service valves are fitted to the rear cap, including a high-pressure relief valve.

Oil return port

On UX models an oil return fitting – 7/16-20 UNF male flare (Part No. 42203-000160) – can be optionally fitted on top of the compressor and is supplied as standard on UXF models. It has a unique flow design suited to the Unicla oil separator (Part No. OS000010) and is interchangeable with the low-side service valve.

Other ports and fittings

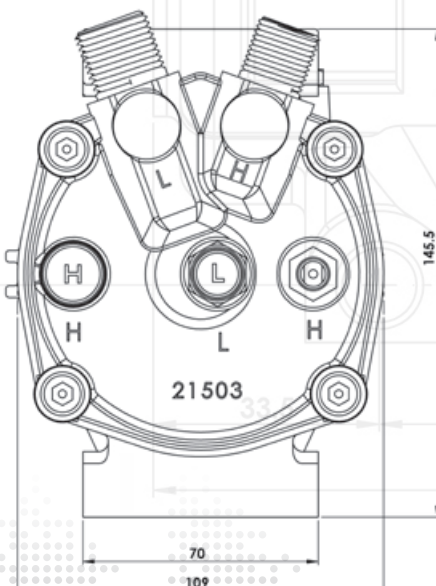
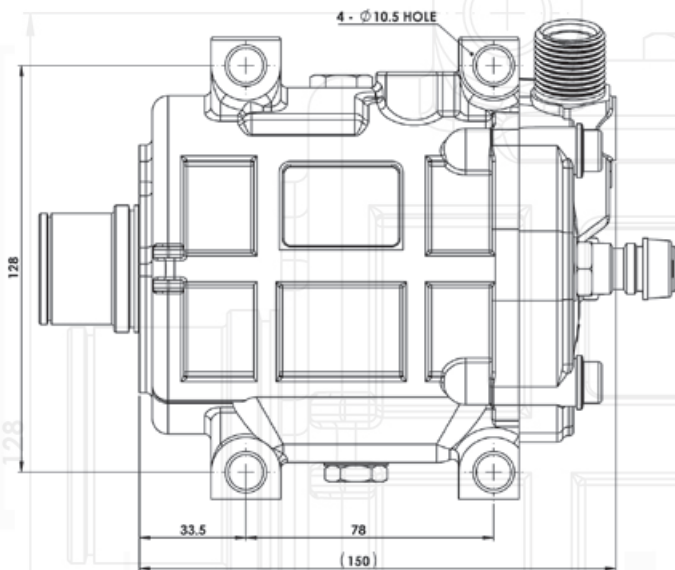
Consistent M12 x 1.0 mm access port size. Easy interchange of blanking plugs, service valves, oil return and pressure switch fittings.

Hose ports

Please see *Clutch, rear cap and hose port options* on page 15.

Clutches

A diverse range of clutches is available for 12V and 24V applications, with or without metal dust covers. Please see *Clutch, rear cap and hose port options* on page 15.



R134a refrigerant		
Compressor	Oil	Mounting
UX120	PAG56 (150 ml)	Direct mount
R404a R452a refrigerant		
Compressor	Oil	Mounting
UXF120	POE32 (150 ml)	Direct mount



Features

- Unicla 10-cylinder swashplate
- Suitable for applications with a system capacity requirement of **2-3 kW**
- Displacement: **92 cc/rev**
- Maximum continuous: **6000 rpm**
- Smooth and quiet operation with excellent performance through all rev ranges
- Clockwise and counterclockwise rotation with no change in volumetric efficiency
- Heavy duty impressed steel gasket and HNBR Japanese high-temperature O-ring (two-point seal)
- Forged steel cylinder housing
- Drop-forged 5050 aluminium pistons with synthetic PTFE heat-treated rings
- Lip seal with high tolerance to heat and operational fatigue
- Genuine NSK bearings throughout

Mounting

The UP and UPF models are compatible with mounting brackets designed for compressors with 67 mm lug spacings and can be interchanged with many compressors used in various applications.

Service valves

Low- and high-side service valves are fitted to the rear cap, including a high-pressure relief valve.

Oil return port

On UP models an oil return fitting – 7/16-20 UNF male flare (Part No. 42203-000160) – can be optionally fitted on top of the compressor and is supplied as standard on UPF models. It has a unique flow design suited to the Unicla oil separator (Part No. OS000010) and is interchangeable with the low-side service valve.

Other ports and fittings

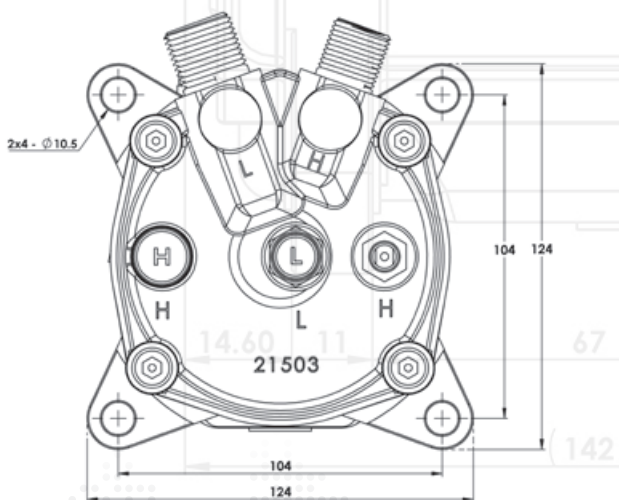
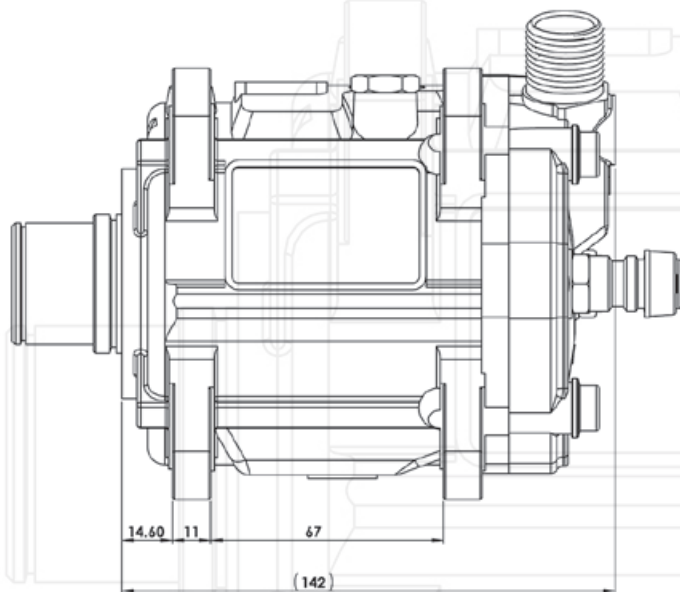
Consistent M12 x 1.0 mm access port size. Easy interchange of blanking plugs, service valves, oil return and pressure switch fittings.

Hose ports

Please see *Clutch, rear cap and hose port options* on page 15.

Clutches

A diverse range of clutches is available for 12V and 24V applications, with or without metal dust covers. Please see *Clutch, rear cap and hose port options* on page 15.



R134a refrigerant		
Compressor	Oil	Mounting
UP90	PAG56 (150 ml)	TM/QP8 compatible
R404a R452a refrigerant		
Compressor	Oil	Mounting
UPF90	POE32 (150 ml)	TM/QP8 compatible



Features

- Unicla 10-cylinder swashplate
- Suitable for applications with a system capacity requirement of **2-3 kW**
- Displacement: **92 cc/rev**
- Maximum continuous: **6000 rpm**
- Smooth and quiet operation with excellent performance through all rev ranges
- Clockwise and counterclockwise rotation with no change in volumetric efficiency
- Heavy duty impressed steel gasket and HNBR Japanese high-temperature O-ring (two-point seal)
- Forged steel cylinder housing
- Drop-forged 5050 aluminium pistons with synthetic PTFE heat-treated rings
- Lip seal with high tolerance to heat and operational fatigue
- Genuine NSK bearings throughout

Mounting

The UC90 is a single lug mount (swing or alternator type) design with two single bottom lugs 60 mm apart.

Service valves

A low-side service valve is fitted to the rear cap, including a high-pressure relief valve.

Oil return port

An oil return fitting – 7/16-20 UNF male flare (Part No. 42203-000160) – can be optionally fitted. It has a unique flow design suited to the Unicla oil separator (Part No. OS000010) and is interchangeable with the low-side service valve.

Other ports and fittings

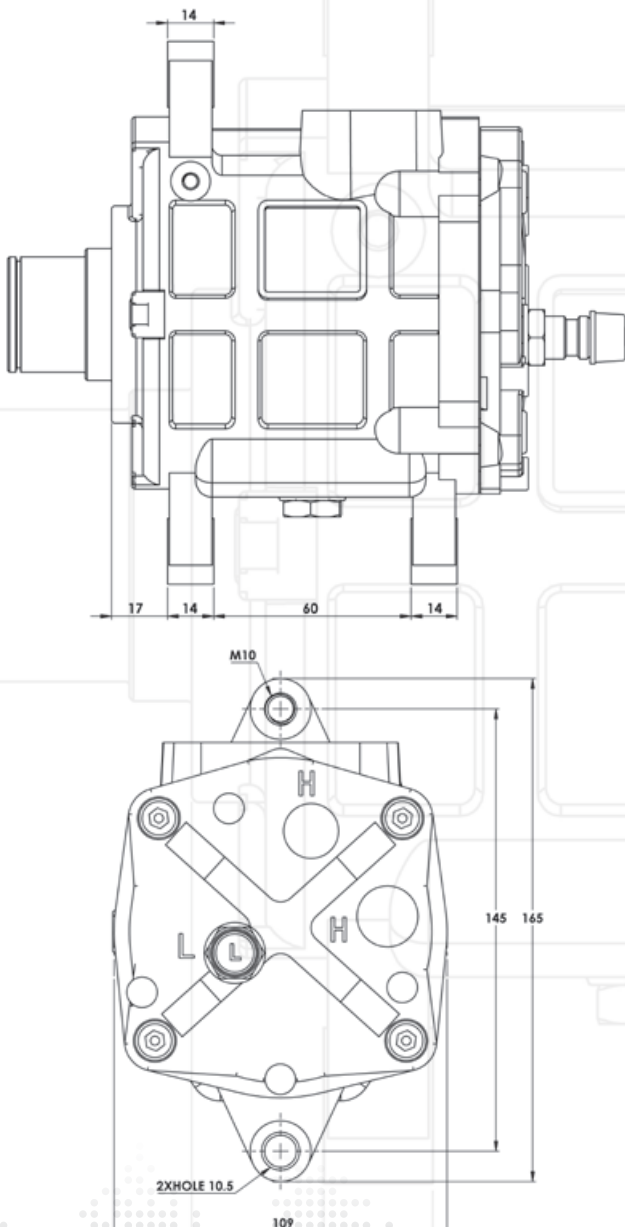
Consistent M12 x 1.0 mm access port size. Easy interchange of blanking plugs, service valves, oil return and pressure switch fittings.

Hose ports

Hose ports are located on top of the compressor body and are made to suit Unicla pad type fittings. Vertical #8 O-ring hose fittings are included as standard. Alternative fittings can be designed according to customer requirements.

Clutches

A diverse range of clutches is available with 4-polygroove and M-section pulleys for 12V and 24V applications, with or without metal dust covers. Please see *Clutch, rear cap and hose port options* on page 15.



R134a refrigerant		
Compressor	Oil	Mounting
UC90	PAG56 (150 ml)	Single lug swing type



Features

- Unicla 10-cylinder swashplate
- Suitable for applications with a system capacity requirement of **1-2 kW**
- Displacement: **46 cc/rev**
- Maximum continuous: **6000 rpm**
- Smooth and quiet operation with excellent performance through all rev ranges
- Clockwise and counterclockwise rotation with no change in volumetric efficiency
- Heavy duty impressed steel gasket and HNBR Japanese high-temperature O-ring (two-point seal)
- Forged steel cylinder housing
- Drop-forged 5050 aluminium pistons with synthetic PTFE heat-treated rings
- Lip seal with high tolerance to heat and operational fatigue
- Genuine NSK bearings throughout

Mounting

The UC45 is a single lug mount (swing or alternator type) design with two single bottom lugs 60 mm apart.

Service valves

A low-side service valve is fitted to the rear cap.

Oil return port

An oil return fitting – 7/16-20 UNF male flare (Part No. 42203-000160) – can be optionally fitted. It has a unique flow design suited to the Unicla oil separator (Part No. OS000010) and is interchangeable with the low-side service valve.

Other ports and fittings

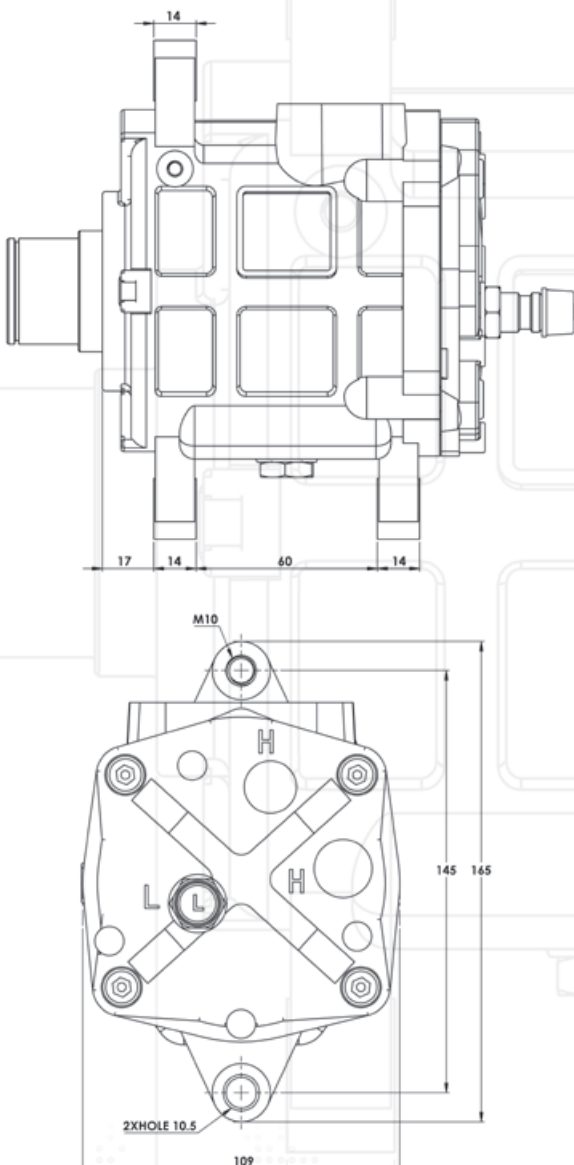
Consistent M12 x 1.0 mm access port size. Easy interchange of blanking plugs, service valves, oil return and pressure switch fittings.

Hose ports

Hose ports are located on top of the compressor body and are made to suit Unicla pad type fittings. Vertical #8 O-ring hose fittings are included as standard. Alternative fittings can be designed according to customer requirements.

Clutches

A diverse range of clutches is available with 4-polygroove and M-section pulleys for 12V and 24V applications, with or without metal dust covers. Please see *Clutch, rear cap and hose port options* on page 15.



R134a refrigerant

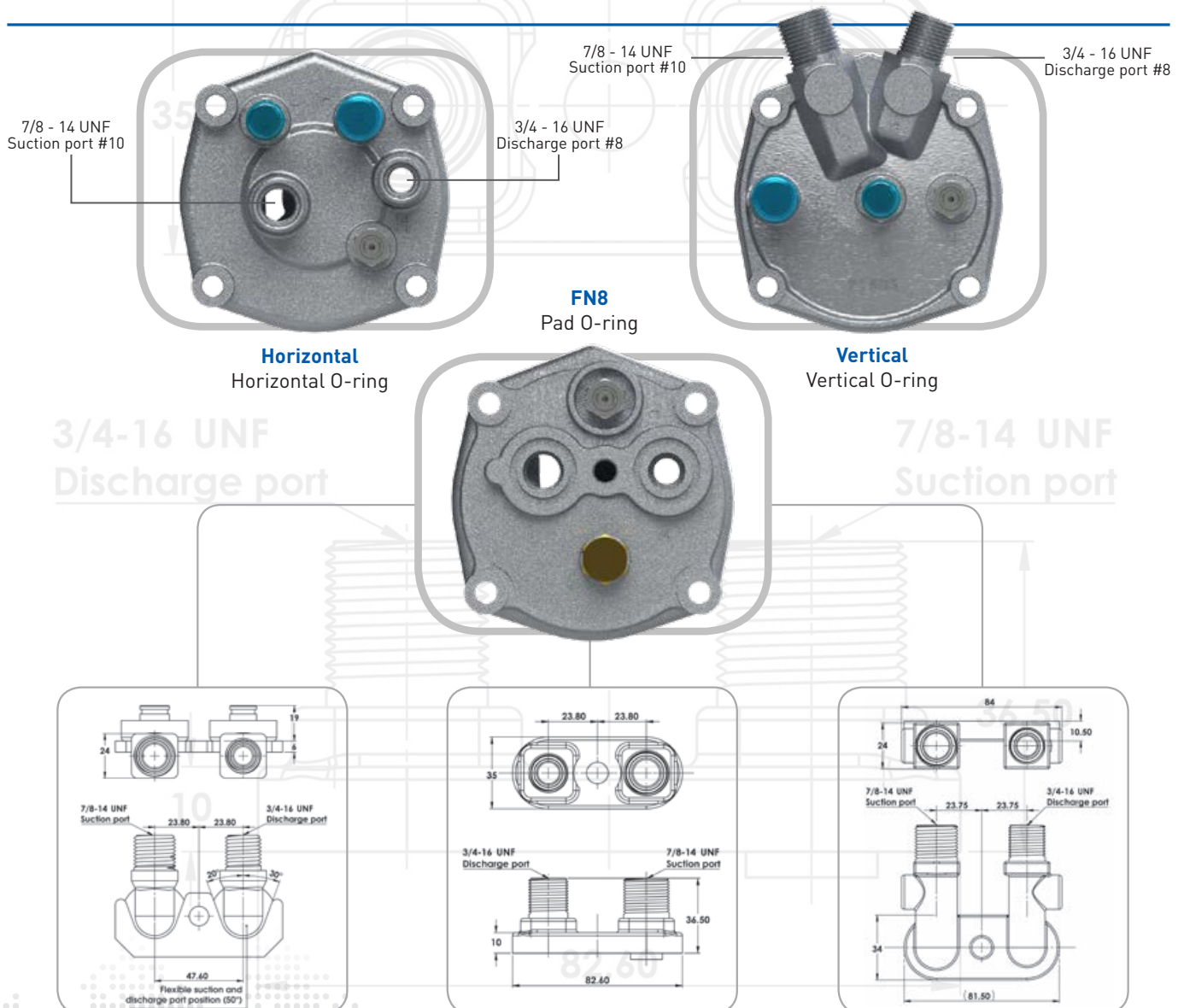
Compressor	Oil	Mounting
UC45	PAG56 (150 ml)	Single lug swing type



Clutches available for 45-170 Series Compressors

	115 mm	119 mm	120 mm	125 mm	132 mm	135 mm	145 mm	12V	24V
A-Groove				✓				✓	✓
AA-Groove				✓	✓		✓	✓	✓
M-Groove*	✓							✓	✓
B-Groove					✓	✓		✓	✓
BB-Groove						✓		✓	✓
4-Groove*			✓					✓	✓
5- Groove		✓						✓	✓
6- Groove		✓		✓				✓	✓
8-Groove		✓		✓		✓		✓	✓
10-Groove		✓		✓				✓	✓

*M- and 4-Groove only fit on UC45 and UC90 compressor.





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