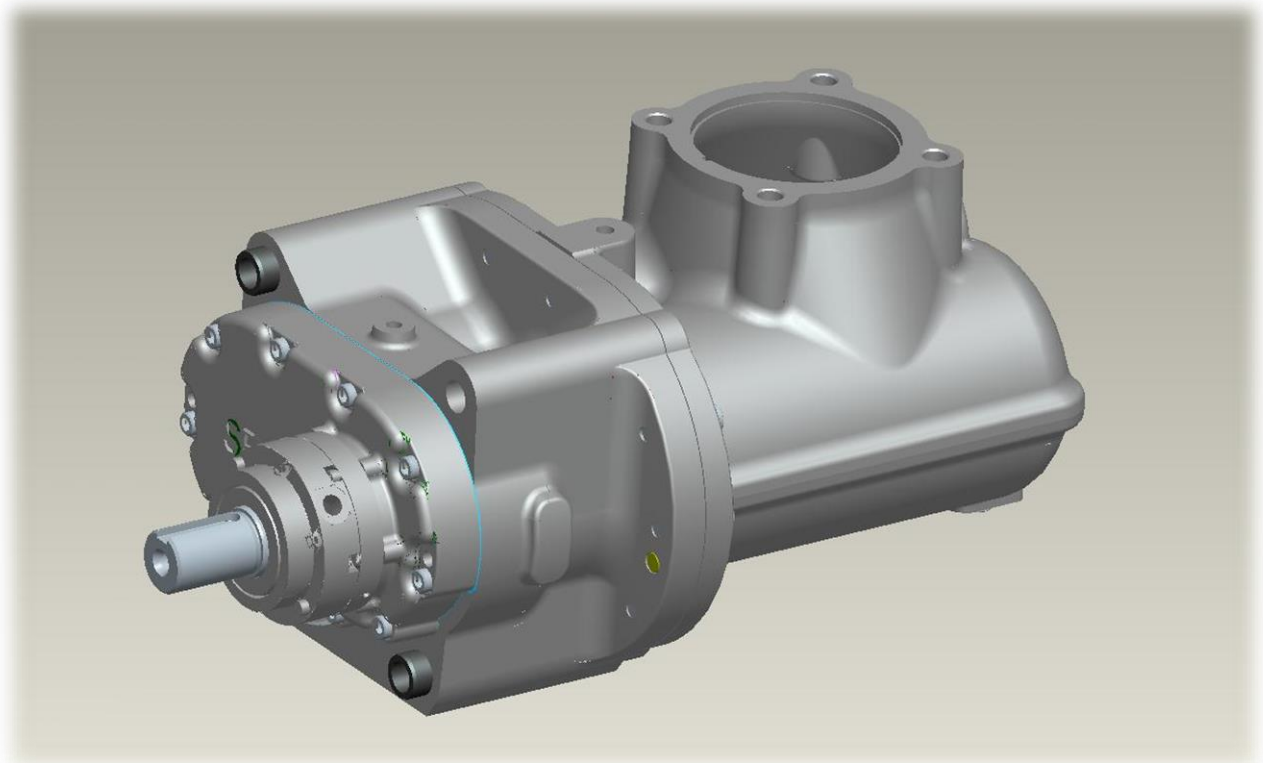




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TECHNICAL INFORMATION

WL38 Water Lubricated Compressor





1. Technical data

1.1 Specification – WL38 Air-end

Layout:	Twin screw single stage water injected and water lubricated air compressor.
Drive configuration:	Direct drive
Over all dimensions:	561x308x246
Weight:	100 kg

Compressor

Material in housing:	Bronze
Material in rotors:	Plastic/ceramic on stainless steel shaft
Inlet pressure at full load:	0.7 - 1.1 bar(a)
Min inlet pressure during unloading:	0.3 bar(a)
Pressure range (discharge = P_d):	5 – 14 bar(a)
Speed range at $P_d \leq 7$ bar(a):	1500 – 6300 rpm
Speed range at $P_d \leq 8$ bar(a):	2000 – 6300 rpm
Speed range at $8 \text{ bar(a)} < P_d \leq 10$ bar(a):	2500 – 6300 rpm
Speed range at $P_d > 10$ bar(a):	3000 – 6300 rpm
Flow:	1.5 – 6.2 m ³ /min
Inlet flange:	DN80 PN6 Non standard
Outlet flange:	DN40 PN16

1.2 Water injection (rotor injection)

Rotor water injection can be adjusted with restriction valve in order to obtain desired outlet temperature. Water injection to the rotors can also be completely shut off, even though this will lead to loss of compression capacity. For highest compression efficiency it is recommended to inject water at a pressure close to compressor outlet pressure.

Water pressure:	< outlet pressure + 3 bar
Water injection flow:	typical value: 30 – 60 liters/minute
Water temperature:	5 – 50 °C
Filter mesh:	25 μ
Recommended Water quality:	De-ionized or reverse osmosis water
Primary water system/Tap water:	The water treatment system should be supplied with tap water, which means water from a drinking-water installation (e.g. according to NEN1006) and water quality in accordance with the directive 80/778/EEC.
Water connections:	G1”



2 Functional description

The WL 38 is a water-lubricated and water injected twin screw compressor designed to provide oil-less air. The compressor is absolutely oil-less as no oil or grease is introduced into the compressor. Key features of the compressor are the hydro dynamic bearing arrangement, plastic/ceramic rotors and water injection.

Hydrodynamic bearings have been used to avoid oil or grease in the compressor. Water is fed through 2 connections in order to lubricate the bearings.

It is of great importance to make sure that the bearings are fed with pressurised water especially during start- up. Neglecting to do so might damage the bearings.

Water is injected in the compressor in order to increase the efficiency and cool the air during compression. The injection water is fed through a connection in the middle of the rotor housing. The drive shaft is sealed with a single mechanical seal which is fed with water from the inlet bearing connection. Air is sucked into the compressor inlet port and is continuously compressed through the action of the screw rotors. The compressed air is delivered through the compressor discharge port.

The delivered air has high water content and needs a water separator.



Outside view drawing

