



WFD551 (D-Style) Industrial Compressor

Designed for Applications with High Working Pressures

Two-stage, water-cooled design...

With a working pressure of 1,000 psig, the water-cooled, two-stage WFD551 compressor is ideal for applications that require high differential pressures such as gas boosting or vapor recovery. In order to reach the high differential pressures, the compressor divides the compression process into two separate stages. During compression, the gas is cooled by a water-cooled cylinder and head. Through this process, the operating and final discharge temperature is lowered.

Distance piece provides barrier to external leakage...

The WFD551 is a D-Style (single-distance piece) compressor. The D-Style option has two sets of V-ring packing per piston rod that form one distance piece or barrier to external leakage. The distance piece has its own line connections and can be separately pressurized, purged or vented depending on the requirements of your specific application. Purge kits with all of the accessories needed to purge the barrier are available.

Oil-free design—no contamination of process gas stream...

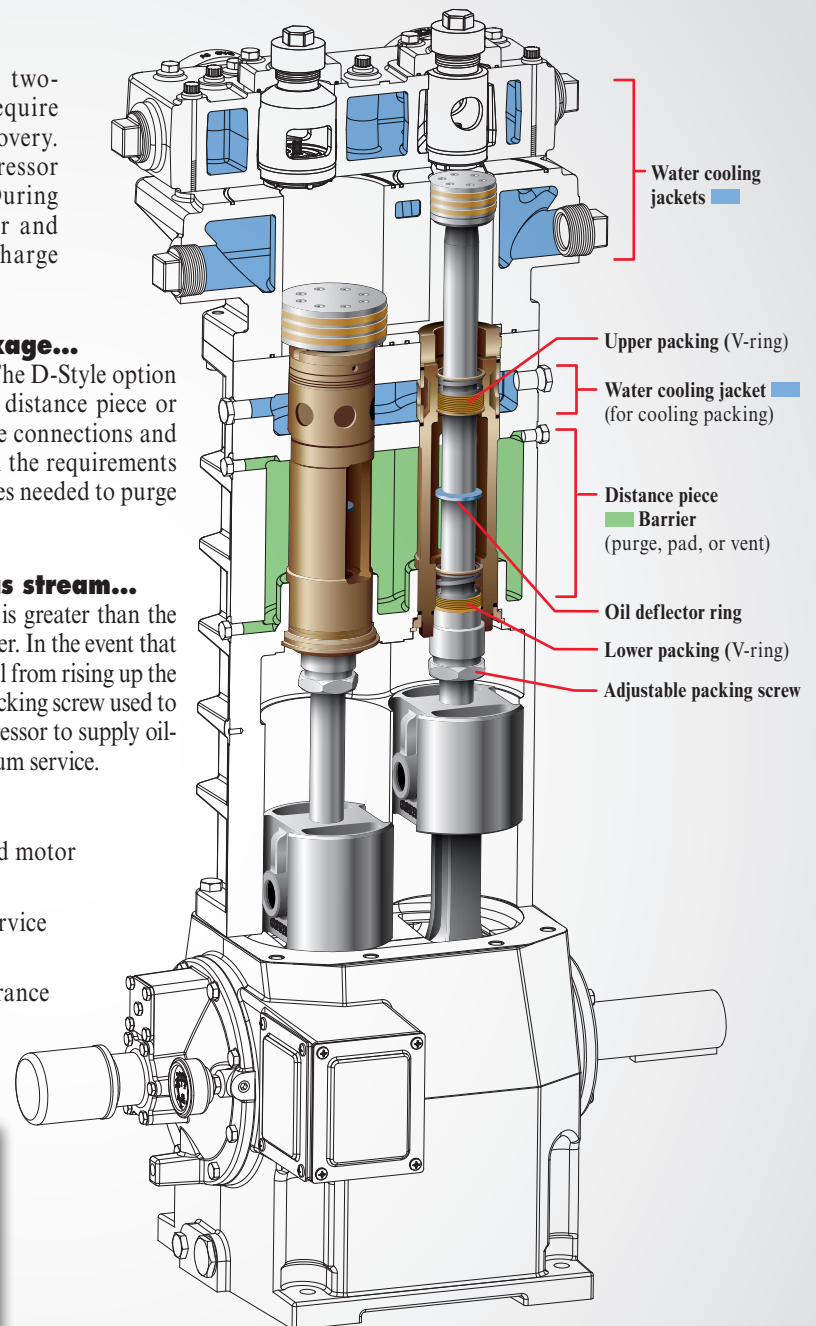
With a D-Style design, the distance between each set of packing is greater than the stroke of the compressor so there's no rod over travel or oil carryover. In the event that oil gets past the lower packing set, the oil deflector ring keeps the oil from rising up the piston rod. Additionally, the lower packing set has an adjustable packing screw used to maintain the sealing performance. These features allow the compressor to supply oil-free gas whether it's being used as a simple gas booster or for vacuum service.

Other features and benefits:

- Reverse unloader option reduces wear on the compressor and motor
- Available in lubricated or non-lubricated versions
- Self-lubricating PTFE piston rings provide many hours of service
- Designed with weld flanges for greater strength
- Ductile iron construction for maximum thermal shock endurance
- Optional corrosive resistant coatings extend service life
- Purge kits with all of the accessories are available

Typical applications:

- Deep water breathing air
- Vapor recovery
- Evacuation
- Refrigeration reclaiming
- High pressure gas boosting



WFD551 two-stage compressor shown above.

Solutions beyond products...



Operating Specifications

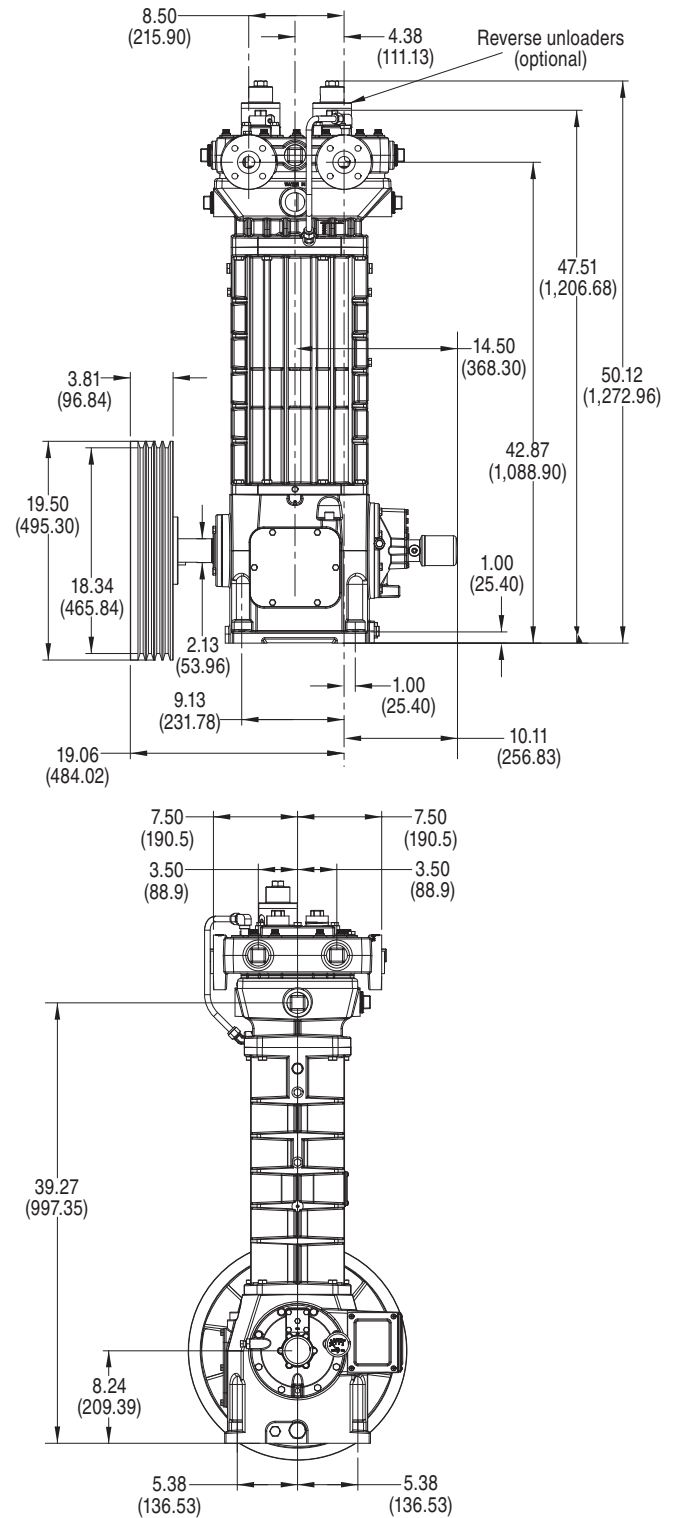
Specification	WFD551
Bore of cylinder, inches (mm)	
first stage	4 (101.6)
second stage	2.5 (63.5)
Stroke, inches (mm)	4.0 (101.6)
Piston displacement, cfm (m ³ /hr)	
minimum @ 400 RPM	11.6 (19.7)
maximum @ 825 RPM	24.0 (40.8)
Maximum working pressure, psig (bar g)	1,000 (69.0)
Maximum brake horsepower, kW	45 (34)
Maximum rod load, lb (kg)	7,000 (3,175.2)
Maximum outlet temperature °F (°C)	350 (177)
Bare unit weight, lb (kg)	1,060 (480.8)

Material Specifications

Part	Standard Material
Head, cylinder	Ductile iron ASTM A536
Crosshead guide	
Crankcase, flywheel	Gray iron ASTM A48, Class 30
Bearing carrier	
Valve seat, bumper	17-4 PH stainless steel
Valve plate	PEEK
Valve spring	1st stage: 316 stainless steel 2nd stage: 17-7 PH stainless steel
Valve gaskets	Iron-lead (Optional: Copper, aluminum)
Piston & piston platform	1st stage piston: Ductile iron ASTM A536 (Optional: MC1002) 2nd stage piston: Gray iron ASTM A48, Class 30 (Optional: MC1002) Platforms: Ductile iron ASTM A536 or steel
Piston rod	C1050 steel-Nitrotec coating
Crosshead	Ductile iron ASTM A536
Piston rings	PTFE, glass and moly filled (Optional: Alloy 50, PEEK)
Piston ring expanders	302 stainless steel
Packing cartridge	
Connecting rod	Ductile iron ASTM A536
Packing rings (V-ring)	Filled reinforced PTFE (Optional: Alloy 50)
Crankshaft	Ductile iron ASTM A536
Connecting rod bearing	Bimetal SAE 12 Babbitt
Wrist pin	C1018 steel
Wrist pin bushing	SAE J461 bronze
Main bearing	Tapered roller
Inspection plate	Aluminum
O-rings	Buna-N (Optional: PTFE, Viton ^{®1} , Neoprene ^{®1})
Retainer rings	Steel
Miscellaneous gaskets	Rubber compositions

¹ Viton[®] and Neoprene[®] are registered trademarks of the DuPont company.

Outline Dimensions for WFD551 (Bare)



All dimensions are in inches (centimeters).

QUALITY
ISO 9001
SYSTEM

Solutions beyond products...
CORKEN
IDEX

ENVIRONMENTAL
ISO 14001
MANAGEMENT
SYSTEM

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