

ROTARY SCREW COMPRESSOR SOLUTIONS FOR YOUR APPLICATION



VMAC OEM DIVISION

1-877-912-6605 vmacair.com/oem

ALREADY TRUSTED BY:

















"For industrial compressed air users who are dissatisfied with struggling to integrate off-the-shelf components, VMAC products are flexible and customizable, which allow you to streamline the cost and space requirements to best fit your application."

VMAC can offer:

- » Customized design & integration
- » In-house manufacturing

- » Complete engineering
- » Experience in multiple industries & applications

ABOUT VMAC

VMAC manufactures continuous duty rotary screw air compressor systems, ranging from 15-150 CFM, for the most common industrial engines. Custom OEM air compressor solutions bring the reliability of a VMAC rotary screw air compressor system to your industrial engine or electric driven applications.

VMAC AIR COMPRESSORS FOR OEM APPLICATIONS

VMAC air compressors are used by OEMs across the globe, with many existing partnerships in North America and Europe. We're proud of the quality work we do with our partner OEMs, and have designed applications for Genco Mine Service, Word International, TEI Rock Drills, National Oilwell Varco, Lincoln Electric, and many more.

VMAC has worked with many popular engine manufacturers to develop compatible compressed air systems, such as:

» Caterpillar [®]	Cummins	DEUTZ	>> Ford	እ Honda
እ John Deere	» Kohler	እ Kubota	እ Scania	እ Yanmar

VMAC continually works on new custom applications based on OEM needs. OEM representatives interested in VMAC rotary screw designs are encouraged to contact the OEM team directly to discuss custom solutions.

VMAC AIR COMPRESSOR SYSTEM ENGINE INTEGRATION

VMAC's system components are integrated into existing vehicle and machine designs, resulting in a seamless, low-profile system.









VMAC ROTARY SCREW FACTS

- >> 15-150 CFM @ 100 psi >> 100% duty cycle
- » Oil-injected rotary screw air compressor

ADVANTAGES OVER PISTON AIR COMPRESSORS

- >> 100% duty cycle
- >> Very little pulsation or surging of air flow
- >>> Longer life
- >> Smaller, lighter compressor fits in tight spaces

COMPRESSOR OIL

- >> Compresses air
- Cools air & system
- >> Lubricates system
- >> Closed loop; no adding oil between service intervals

- > 175 psi maximum working pressure
- » Runs at much lower temperatures
- >> Faster tank fill times
- >> Less drive train torque loading
- >> Customizable for each application



» COMPACT SIZE

Built to fit in tight spaces. 25% smaller than competitive reciprocating products. 654 in³ (10.7 L) vs. competitor's 877 in³ (14.4 L)

» 100% DUTY CYCLE

15-70 CFM. 100% of the time.

» LIGHTWEIGHT, ALUMINIUM DESIGN

60% weight savings compared to competitive reciprocating products. 28 lb (12.7 kg) vs. competitor's 68 lb (31 kg)

» SAE PTO PORT DRIVEN

SAE-A, B & C port/spline configurations available.

» 6X MORE OUTPUT

In a package that is 25% smaller and 60% lighter than leading reciprocating competitors.

SAE A, B & C PORT SPLINE DRIVE SPECS

Min. Working Pressure	90 psi	6.2 bar
Max. Working Pressure	175 psi	12.0 bar
Maximum Air Output*	70 CFM	1,982 l/min
Compressor Weight	28 lb	12.7 kg
Gear Ratio	3.21:1	
Rotation	Clockwise	
Maximum Shaft Speed	3,600 RPM	



*Using ASME PTC 19.5 - 2004 flow measurement standard at 100 psi



SAE A & C PORT SPLINE DRIVE SPECS

Min. Working Pressure	90 psi	6.2 bar
Max. Working Pressure	175 psi	12.0 bar
Maximum Air Output*	70 CFM	1,982 l/min
Compressor Weight	38 lb	17.3 kg
Gear Ratio	4.23:1	
Rotation	Counterclockwis	e
Maximum Shaft Speed	2,600 RPM	



*Using ASME PTC 19.5 - 2004 flow measurement standard at 100 ${\rm psi}$

SPLINE DRIVE EXAMPLES

» VMAC Spline Drive System Routing Example



» SAE A, B & C Port Spline Drive System Example

Engine RPM	2,200 RPM	
PTO Port Gear Ratio	1:1.0	
PTO Port RPM	2,200 RPM	
Compressor Output @ 100 psi	41.7 CFM	1,180 l/min
Drive Power @ 100 psi	15.3 HP	11.4 kW
Drive Power @ 150 psi	17.9 HP	13.3 kW
Drive Torque @ 100 psi	36.5 ft-lb	49.4 kW
Drive Torque @ 150 psi	42.7 ft-lb	57.9 kW
Oil Cooling Requirement	28,200 BTU/h	8.3 kW

>> COMPACT SIZE

Built to fit in tight spaces. 60% smaller than competitive reciprocating products. 136 in³ (2.2 L) vs. competitor's 337 in³ (5.5 L)

>> 100% DUTY CYCLE 15-40 CFM. 100% of the time.

15-40 CFM. 100% of the time.

LIGHTWEIGHT, ALUMINIUM DESIGN
57% weight savings compared to competitive reciprocating products.
14.1 lb (6.4 kg) with clutch vs. competitor's 33 lb (15 kg) without clutch.

>> CUSTOMIZABLE APPLICATIONS

Choose the VMAC components to fit your unique system.

VR40 BELT DRIVE SPECS

Min. Working Pressure	90 psi	6.2 bar
Max. Working Pressure	175 psi	12.1 bar
Maximum Air Output*	40 CFM	1,133 l/min
Compressor Weight	14.1 lb	6.4 kg
Maximum Clutch Speed	6,500 RPM	

*Using ASME PTC 19.5 - 2004 flow measurement standard at 100 psi

VR40 BELT DRIVE SYSTEM ROUTING EXAMPLE



VR40 BELT DRIVE SYSTEM EXAMPLE

Engine RPM	1,800 RPM	
Crankshaft Pulley Diameter	8 in	203 mm
Compressor Clutch Diameter (2 options)	3.35 in	85 mm
Compressor Output @ 100 psi	32.2 CFM	913 l/min
Drive Power @ 100 psi	11.3 HP	8.4 kW
Drive Power @ 150 psi	14.7 HP	10.9 kW
Drive Torque @ 100 psi	13.8 ft-lb	18.7 Nm
Drive Torque @ 150 psi	17.9 ft-lb	24.3 Nm
Oil Cooler Capacity (approximate)	20,900 BTU/h	6.1 kW



>> COMPACT SIZE

Built to fit in tight spaces. 50% smaller than competitive reciprocating products. 700 in³ (11.4 L) vs. competitor's 1,370 in³ (22.4 L)

>> 100% DUTY CYCLE 20-70 CFM. 100% of the time.

LIGHTWEIGHT, ALUMINIUM DESIGN
68% weight savings compared to competitive reciprocating products.
21 lb (9.1 kg) with clutch vs. competitor's 66 lb (30 kg) without clutch.

CUSTOMIZABLE APPLICATIONS Choose the VMAC components to fit your unique system.

VR70 BELT DRIVE SPECS



Min. Working Pressure	90 psi	6.2 bar
Max. Working Pressure	175 psi	12.1 bar
Maximum Air Output*	71 CFM	2,010 l/min
Compressor Weight	21 lb	9.5 kg
Maximum Clutch Speed	4,500 RPM	

*Using ASME PTC 19.5 - 2004 flow measurement standard at 100 psi

VR70 BELT DRIVE SYSTEM ROUTING EXAMPLE



VR70 BELT DRIVE SYSTEM EXAMPLE

Engine RPM	1,600 RPM	
Crankshaft Pulley Diameter	11 in	279 mm
Compressor Gear Ratio (2 options)	1:242	
Compressor Clutch Diameter (2 options)	5.8 in	147 mm
Compressor Male Rotor RPM	7,340	
Compressor Output (@ approx. 100 psi)	47.4 CFM	1,342 l/min
Drive Power @ 100 psi	14.6 HP	10.9 kW
Drive Power @ 150 psi	17.5 HP	13.0 kW
Drive Torque @ 100 psi	47.9 ft-lb	64.9 Nm
Drive Torque @ 150 psi	57.4 ft-lb	77.9 Nm
Oil Cooler Capacity (approximate)	27,700 BTU/h	8.1 kW

» COMPACT SIZE

Built to fit in tight spaces. 44% smaller than competitive reciprocating products. 770 in³ (12 L) vs. competitor's 1,371 in³ (23 L)

>> 100% DUTY CYCLE 30-130 CFM. 100% of the time.

> LIGHTWEIGHT, ALUMINIUM DESIGN 63% weight savings compared to competitive reciprocating products. 56.7 lb (25.7 kg) vs. competitor's 154.3 lb (70 kg) air-end only.

>> CUSTOMIZABLE APPLICATIONS

Choose the VMAC components to fit your unique system.

VR130 BELT DRIVE SPECS



Min. Working Pressure	90 psi	6.2 bar
Max. Working Pressure	175 psi	12.1 bar
Maximum Air Output*	130 CFM	3,681 l/min
Compressor Weight	56.7 lb	25.7 kg
Maximum Clutch Speed	4,200 RPM	
*//: ACME DTC 40 5 0004 0	t stand and st 100 ms;	

*Using ASME PTC 19.5 - 2004 flow measurement standard at 100 psi

CURRENT BELT DRIVE APPLICATION LIST

SUPPLIER	ENGINE MODEL	ENGINE DISPLACEMENT	VMAC AIR END	
CAT	C4.4	4.4 L	VR70	
CAT	C7.1	7.1 L	VR70	
Cummins	B3.3	3.3 L	VR70	
Cummins	B4.5	4.5 L	VR70	A CONTRACT OF STREET
Cummins	B6.7	6.7 L	VR70/VR130	
DEUTZ	TD	2.9 L	VR70	-5-226 G
John Deere	4045	4.5 L	VR70	COL
John Deere	6068	6.8 L	VR70/VR130	
John Deere	6090	9.0 L	VR70	Concessor.
Kohler	KDI1903	1.9 L	VR70	
Kohler	KDI2504	2.5 L	VR70	
Kubota	V3800	3.8 L	VR70	
Kubota	V5009	5.0 L	VR40/VR70	
Kubota	D902	0.9 L	VR70	
Scania	DC16	16 L	VR70	u.
Yanmar	4TNV98CT	3.3 L	VR70	

Additional applications available. Please contact the VMAC OEM team to discuss your requirements.

VR70 ELECTRIC DRIVE AIR COMPRESSORS



- >> 100% DUTY CYCLE 20-70 CFM. 100% of the time.
- >> LIGHTWEIGHT, ALUMINIUM DESIGN The motor and compressor weigh only 50 lb (22.7 kg).
- DIRECT MOTOR MOUNTED No gears or coupling required.
- >> IP65 RATED MOTOR

>> CUSTOMIZABLE OPTIONS

Choose the options that work best for your application. Air to Oil or Liquid to Oil compressor cooling, modular separation, and filtration systems available.

VR70 ELECTRIC DRIVE AIR COMPRESSOR SPECS

Min. Working Pressure	90 psi	6.2 bar
Max. Working Pressure	175 psi	12.1 bar
Maximum Air Output*	70 CFM	1,982 l/min
Voltage	200 - 1,000V	
Compressor Weight	50 lb	22.7 kg

*Using ASME PTC 19.5 - 2004 flow measurement standard at 100 psi

VMAC is currently working with various partners to develop custom air compressor packages to their specifications. If you are interested in this opportunity, please contact 1-877-912-6605.



- >> 100% DUTY CYCLE 20-70 CFM. 100% of the time.
- >> MODULAR DUAL SYSTEM DESIGN OPTION 20-130 CFM with built in redundancy.
- >> LIGHTWEIGHT, ALUMINIUM DESIGN The motor and compressor utilize lightweight, durable materials.

DIRECT MOTOR MOUNTED No gears or coupling required.

» CUSTOMIZABLE OPTIONS

Choose the options that work best for your application. Air to Oil or Liquid to Oil compressor cooling, modular separation, and filtration systems available.

CUSTOM ELECTRIC DRIVE AIR COMPRESSOR SPECS

Min. Working Pressure	90 psi	6.2 bar
Max. Working Pressure	175 psi	12.1 bar
Maximum Air Output*	70 CFM	1,982 l/min
Voltage	200 - 1,000V	
Compressor Weight	50 lb	22.7 kg

*Using ASME PTC 19.5 - 2004 flow measurement standard at 100 psi

VMAC COMPONENTS FOR OEM APPLICATIONS

Additional VMAC components are available for custom OEM applications, including digital controls and oil cooler options.

DIGITAL CONTROLS

Features of the control box:

- » Turns compressor on when ON button is pressed
- >> Turns compressor off when OFF button is pressed
- » Monitors compressor system temperature
- >> Records error codes when errors occur (data logging)
- >> Provides service alerts

OIL COOLER OPTIONS

Liquid to Oil Cooler

>> Plumbed into the engine cooling system

Air to Oil Cooler

- >> 12V or 24V fan
- >> Pusher or puller fan options

AIR AFTERCOOLER

Improves performance and extends life of air tools; removes up to 80% of water from compressed air; includes automatic water drain.

- Maximum flow: 70 CFM / 175 psi
- >> Port size: 3/4" NPT inlet and outlet
- >> Dimensions: 17.0" (I) x 8.0" (w) x 14.5" (h); 43.2 cm (I) x 20.3 cm (w) x 36.8 cm (h)
- » Weight: 35 lb (15.8 kg)

AIR SYSTEM DE-ICER

Prevents freezing of the system pressure line and regulator in cold climates. Insulated rope heater includes on/off switch with indicator light.

- >> Dimensions: 10'
- >>> Electrical: 12V, 80 W
- >> Weight: 5 lb (2.3 kg)









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