



Full Line Bulletin One

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# Positive Displacement Rotary Vane Pumps For Fluid Processing and Transfer Applications





# Blackmer Fluid Processing and Transfer Pumps

## The Blackmer Pump Story

Blackmer was first established in 1903, and has been manufacturing rotary pumps since that time. In 1965, Blackmer became a division of the Dover Corporation, a U.S. Fortune 500 Company and a diversified producer of capital goods.

Today, Blackmer is the world's leading manufacturer of rotary vane pumps. The company offers the best combined characteristics of sustained high level performance; energy efficiency, trouble-free operation and low maintenance cost. Blackmer pumps are widely used by the U.S. defense agencies, and have long been the preferred technology for transfer, transport and delivery of petroleum products and liquefied gases. Blackmer's unique sliding vane design is now recognized worldwide for handling industrial process fluids, Volatile Organic Compounds, abrasive slurries and viscous liquids.

## World-class quality – ISO 9001 Certified

Blackmer's worldwide reputation for superior product quality begins with extensive research and development, computer-aided design, and integrated manufacturing capabilities. Blackmer operates its own modern foundry and metallurgical laboratory. Computerized machine tools and statistical process controls (SPC) are used throughout the manufacturing process to ensure the highest quality standards.

All Blackmer pumps are produced and tested in conformance with ISO 9001 certification.

## How Blackmer sliding vane pumps achieve high volumetric efficiency

As shown in Figure 1, Blackmer pumps use a rotor with sliding vanes, which draw the liquid in behind each vane, through the inlet port and into the pumping chamber. As the rotor turns, the liquid is transferred between the vanes to the outlet where it is discharged. Each vane provides a positive mechanical and hydraulic push to the liquid.

Vaness are actuated by three forces: (1) centrifugal force from the rotor's rotation, (2) push rods moving between opposing pairs of vanes, and (3) liquid pressure entering through the vane grooves and acting on the rear of the vanes. Each revolution of a Blackmer pump displaces a constant volume of fluid. Variance in pressure has minimal effect. Energy-wasting turbulence and slippage are minimized and high volumetric efficiency is maintained.

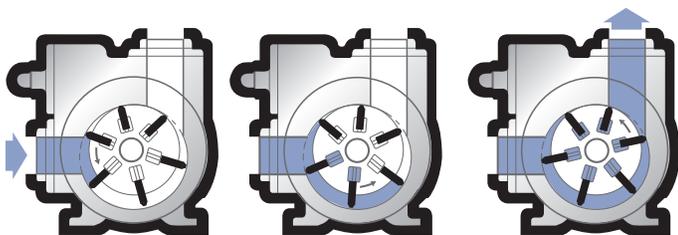


FIGURE 1. How Blackmer's sliding vane action works

## Self-adjusting vanes sustain performance

The performance of gear pumps will constantly diminish as wear increases clearances. To compensate for the reduced performance, you must increase the pump speed (which further accelerates pump wear) or tolerate reduced capacity until performance drops to a totally unacceptable level. The vanes on a Blackmer pump automatically slide out in their rotor slots to continuously adjust for wear, as shown in Figure 2. No more speeding up to compensate for reduced flow, and no more putting up with poor performance. Blackmer pumps maintain near-original efficiency and capacity throughout the life of the vanes.

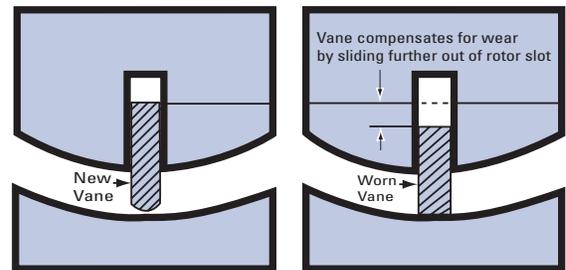


FIGURE 2. How Blackmer's sliding vanes maintain efficiency

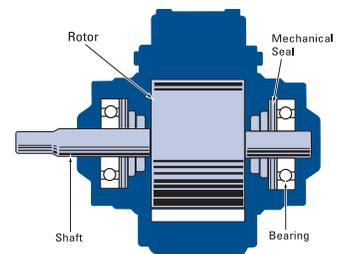
## Efficiency means energy savings

The high volumetric efficiency and symmetrical bearing support of Blackmer pumps means they require less horsepower than other positive displacement pumps. So, you spend less on motors initially and less on electricity to operate the pumps once they are installed. How much less? Typically a Blackmer pump may require up to 30% less power than other positive displacement pump types in handling fluids from 30 to 500,000 ssu (1 to 108,000 cSt).

## Symmetrical bearing support and rugged construction assures reliable performance

Blackmer pumps are available with grease lubricated ball or roller bearings and mechanical shaft seals. Models are also available with external gland bearings or internal self-lubricating sleeve bearings, which have small vacuum passages in the heads to assure bearing lubrication and cooling.

Blackmer mechanically sealed pumps are often the first choice for demanding applications, such as abrasives, viscous or thin, non-lubricating fluids. Blackmer manufactures its own mechanical seals to match the criteria of the application, and Blackmer seals are designed as an integral component of the pump. This unique design isolates the pumpage from the bearings, maintains seal face alignment and maximizes seal flushing for cooling. The result is optimum seal and bearing life.



## Vane replacement in minutes, easy maintenance

Vane replacement, when necessary, is easy. Simply remove the outer head, slide out the old vanes, insert the new ones, and reinstall the head. In a matter of minutes, your pump is back in operation. Routine inspection is equally as easy.

Several Blackmer pump models are equipped with replaceable liners and end discs. They protect the pump casing and offer the economy of simple replacement, restoring the pump to like-new efficiency, should the liner ever show significant wear.

## Self-priming and dry run capability

Blackmer's unique mechanical seal and seal-less designs allow dry running for priming and line stripping. The self-adjusting sliding vanes help maintain this capability for consistent priming.

## Volatile Organic Compounds

Blackmer sliding vane pumps have long been the preferred pump technology for handling Volatile Organic Compounds (VOCs), and a wide range of thin products. Since Blackmer pumps are designed with no metal-to-metal contact, they are ideal for handling non-lubricating fluids efficiently.

## High viscosity or shear sensitive fluids

Blackmer pumps are ideal for handling viscous or shear sensitive fluids. Slow operating speeds, hydraulic vane actuation and high efficient design minimize shear and agitation of the liquid.

## Abrasive fluids

Blackmer wear-resistant pump models have specially hardened and replaceable wear surfaces. Low speed operation and external bearings that are completely isolated from the pumpage provide extended life on tough abrasive service.

## Sealing options

A wide selection of Blackmer mechanical seal options are available for a broad range of application requirements. Commercial mechanical seals in single or multiple configurations, shaft packing, lip seals or triple lip seals are also available for select pump models.

## Seal-less option

Blackmer also offers a line of magnetically coupled pumps that provide zero shaft leakage of expensive, hazardous or toxic fluids.

## Materials of construction

Blackmer pumps are offered in cast iron, ductile iron, or 316 stainless steel construction.

## Technical assistance

The chart below gives recommended pump types for fluids commonly handled by Blackmer pumps. This is only a partial list and, in some applications, selecting the right pump may require more detailed information than is presented here. Blackmer has a worldwide stocking distributor network and a staff of Application Engineers to assist you in specifying the proper pump for your application. Please log on to our website, [www.blackmer.com](http://www.blackmer.com), for the name of the nearest distributor in your area.

## Typical Blackmer Pump Applications

Service	Fluid	Recommended Pump Types
<b>GENERAL-DUTY PUMPS:</b>		
Petroleum	Refined Fuel Transfer Greases	X(H), GNX(H) NP(H), MLN
Food	Chocolate Syrups Molasses Edible Oils	NP(H), MLN NP(H), MLN NP(H), MLN X(H), GNX(H)
Paper	Black Liquor Sodium Silicate	NP(H), MLN NP(H), MLN
Transfer	Solvent (VOCs) Transfer Tallow Fire Fighting Foam (AFFF) Wax Creosote Glues, Adhesives Asphalt	All Lines NP(H), MLN NP(H), MLN NP(H), MLN NP(H), MLN NP(H), MLN NP(H), MLN
<b>HEAVY-DUTY PUMPS:</b>		
Petroleum	Lube Oil Packaging Refineries	All Line MLX, HXL
Marine	Stripping Fluid Transfer Fuel and Lubrication	XL, MLX MLX, HXL XL, X(H), GNX(H)
Processing	Caustics Solvents (VOC's) Asphalts Molasses Polyol Industrial Liquefied Gases	All Lines All Lines HXL, ML HXL, ML XL XL

Service	Fluid	Recommended Pump Types
<b>ABRASIVE LIQUID PUMPS:</b>		
Fluid Recovery	Waste Solvents (VOCs) Waste Petroleum Products	XLW, MLX XLW, MLX
Printing	Ink	XLW, MLX
Paints	Oil Base Paints	XLW, MLX
Paper	Calcium Stearate	XLW, MLX
Processing	Filled Polyol Magnetic Tape - Iron Oxide Crude Oil	XLW, MLX XLW, MLX XLW, MLX
<b>316 STAINLESS STEEL PUMPS</b>		
Food	Corn Syrups Chocolates Fruit Juices	SNP SNP SNP
Paints	Latex Emulsions	SNP
Soap	Sulphonic Acid Liquid Soaps	SNP SNP
Processing	Solvents (VOCs) Caustic Soda Resins	SMVP, SX SNP, SMVP, SX SNP



# General-Duty Pumps

Blackmer GNX(H), X(H), NP(H) and MLN pump models have long been popular for transferring a wide range of non-corrosive, non-abrasive industrial liquids and petroleum products. The GNX(H) and X(H) models are fitted with Blackmer mechanical seals and external grease lubricated ball bearings. The X(H)1 and X(H)1P motor speed pump models have one-inch NPT tapped ports, and are fitted with a foot bracket for base mounting, or an integral bracket for direct mounting to a NEMA C-face motor. The X(H)1P model offers 50% more capacity than the X(H)1 pump.

The GNX(H) models feature an integral head mounted gear reduction drive that is self-aligning. The GNX(H) pumps are the first

choice for economy and compactness. The X(H) type pumps can be used with a wide variety of gear reducers and drive arrangements.

Standard NP(H) and MLN pump models are constructed with self-lubricating internal sleeve bearings and PTFE impregnated shaft packing. Sealing options include single or multiple commercial mechanical seals, lip seals or triple lip seals. Jacketed heads are available for both models.

The GNX(H), X(H), and NP(H) pump models (two through four-inch port sizes) are offered with standard NPT tapped, optional weld or ANSI companion pipe flanges. The MLN4 model has ANSI compatible flanges.



GNX



X2 cutaway



NP2 cutaway with optional jackets

## Materials of Construction

Pump Series	Cylinder & Heads	Rotor	Shaft	Bearings	Shaft Seal	O-ring Options	Vane Options
GNX(H), X(H)	Cast Iron	Cast Iron	Steel	External Ball	Blackmer Mechanical Packing, Mechanical Seal or Lip Seal	FKM PTFE	Duravane Laminate Bronze Iron
NP(H)	Cast Iron or Ductile Iron	Ductile Iron		Metal Impregnated Carbon Sleeve			
MLN	Ductile Iron	Ductile Iron					

Note: H series pumps have full ductile-iron casings (GNXH, XH, NPH)

## Pump Ratings

Pump Series	Maximum Diff. Pressure		Maximum Working Pressure		Maximum Fluid Temperature	
	psi	bar	psi	bar	°F	°C
GNX(H), X(H)	125	8.6	175	12.1	300	149
NP(H)	200	13.8	250	17.2	500	260
MLN	200	13.8	250	17.2	400	204

## Pump Performance Data

Pump Model	Port Size (Inches)	Pump Speed (rpm)	Nominal Flow Rate at 50 psi (3.4 bar)		Maximum Viscosity at Pump Speed Shown	
			gpm	L/min	ssu	cSt
X(H)1	1	1,750	10	38	3,000	630
		1,450	8	30	3,000	630
X(H)1P	1	1,750	16	61	1,000	220
		1,450	12	45	1,000	220
GNX(H)2 X(H)2	2	814	86	325	1,000	220
		280	31	117	20,000	4,250
GNX(H)2.5 X(H)2.5	2½	814	155	587	1,000	220
		280	58	220	20,000	4,250
GNX(H)3 X(H)3	3	640	266	1,007	500	105
		280	115	435	20,000	4,250
GNX(H)4 X(H)4	4	500	510	1,930	500	105
		230	224	848	20,000	4,250
NP(H)1.5	1½	640	46	174	1,000	220
		56	4	15	75,000	16,500
NP(H)2	2	640	72	273	1,000	220
		100	10	38	75,000	16,500
NP(H)2.5	2½	640	132	500	1,000	220
		100	22	83	75,000	16,500
NP(H)3	3	640	269	1,018	1,000	220
		100	38	144	75,000	16,500
NP(H)4	4	500	512	1,938	5,000	1,050
		100	94	356	75,000	16,500
MLN4	4	600	565	2,139	5,000	1,050
		68	60	227	500,000	108,000



# Heavy-Duty, Ductile Iron Pumps

Blackmer XL, MLX and HXL pump models are commonly used in refineries, lube oil plants and general industry for processing, filling and transfer applications. These models are constructed of ductile iron that will withstand sudden thermal shock and stress well beyond the capabilities of cast iron. All models feature replaceable casing liners and end discs that allow easy rebuilding of the pumping chamber to like new condition, without removing

the pump from the piping. The XL, MLX and HXL models are fitted with Blackmer mechanical seals, and external grease lubricated ball or spherical roller bearings.

XL2 -XL4 models feature an integral head mounted gear reduction drive that is self-aligning. The XL type pumps can be used with a wide variety of gear reducers and drive arrangements.

## Materials of Construction

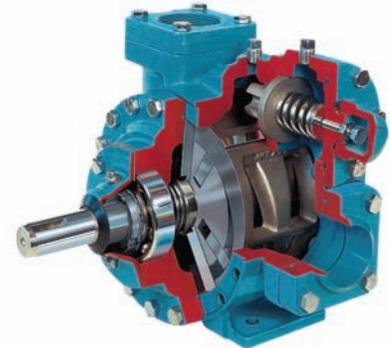
Pump Series	Casing & Heads	Rotor	Shaft	Liner	End Discs	Bearings	Shaft Seal	O-ring Options	Vane Options
XL	Ductile Iron	Iron	Steel	Iron	Cast Iron	External Ball	Blackmer Mechanical	FKM PTFE	Duravane Laminate Bronze Iron
MLX, HXL						Spherical Roller	Blackmer Mechanical		

## Pump Ratings

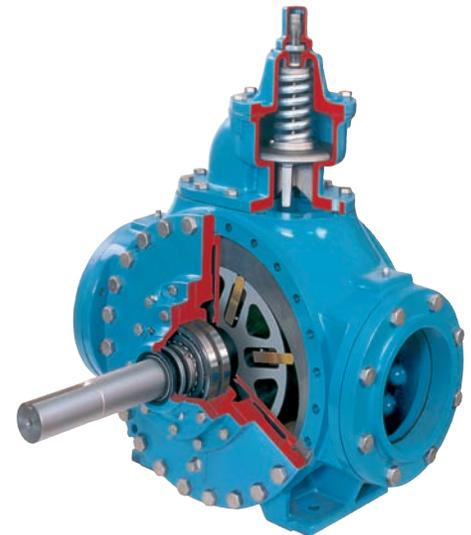
Pump Series	Maximum Differential Pressure		Maximum Working Pressure		Maximum Fluid Temperature	
	psi	bar	psi	bar	°F	°C
XL	150	10.3	350	24.1	300	149
MLX	200	13.8	250	17.2	300	149
HXL6	125	8.6	150	10.3	400	204
HXL8, HXL10	150	10.3	250	17.2	400	204

## Pump Performance Data

Pump Model	Port Size (Inches)	Pump Speed (rpm)	Nominal Flow Rate At 50 psi (3.4 bar)		Maximum Viscosity at Pump Speed Shown	
			gpm	L/min	ssu	cSt
XRL1.25	1¼	1,750	17	64	5,000	1,050
		1,450	14	53	5,000	1,050
XL1.25	1¼	1,750	23	87	5,000	1,050
		1,450	19	72	5,000	1,050
XL1.5	1½	1,750	35	132	5,000	1,050
		1,450	29	110	5,000	1,050
XL2	2	780	82	310	5,000	1,050
		230	24	91	50,000	10,500
XL3	3	780	185	700	5,000	1,050
		230	50	189	50,000	10,500
XL4	4	640	346	1,310	5,000	1,050
		155	77	291	50,000	10,500
MLX4	4	600	565	2,139	5,000	1,050
		200	180	681	100,000	21,000
HXL6	6	350	735	2,782	1,000	220
		68	130	492	100,000	21,000
HXL8	8	350	1,175	4,447	1,000	220
		68	220	833	100,000	21,000
HXL10	10	230	2,060	7,797	5,000	1,050
		68	595	2,252	100,000	21,000



XL2 cutaway



HXL8 cutaway



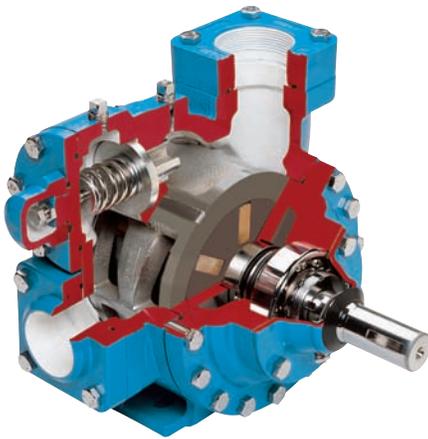
# Wear-Resistant, Abrasive Liquid Pumps

Blackmer wear-resistant pumps are specially designed for handling liquids with suspended abrasive particles, such as inks, paints, crude oil, waste oils and solvents. These models are constructed with specially hardened and replaceable wear surfaces for extended service life. All models have ductile iron construction with replaceable liners and end discs for quick, easy replacement.

The XLW and MLX models are fitted with external grease lubricated ball or roller bearings, and feature special Blackmer

abrasion-resistant mechanical seals, which are an integral component of the pump. This construction minimizes seal face movement, and completely isolates the bearings from the pumpage.

XLW2 -XLW4 models feature an integral head mounted gear reduction drive that is self-aligning. The XLW type pumps can be used with a wide variety of gear reducers and drive arrangements.



XLW2 cutaway



MLX4 cutaway

## Materials of Construction

Pump Series	Casing & Heads	Rotor	Shaft	Liner	End Discs	Bearings	Shaft Seal	O-ring Options	Vane Options
XLW MLX	Ductile Iron	Hardened Ductile Iron	Hardened Steel	Hardened Ductile Iron	Hardened Cast Iron	External Ball or Roller	Blackmer Mechanical	FKM PTFE	Hardened Iron or Laminate

## Pump Ratings

Pump Series	Maximum Differential Pressure		Maximum Working Pressure		Maximum Fluid Temperature	
	psi	bar	psi	bar	°F	°C
XLW	150	10.3	350	24.1	300	149
MLX	200	13.8	250	17.2	300	149

## Pump Performance Data

Pump Model	Port Size (inches)	Pump Speed (rpm)	Nominal Flow Rate at 50 psi (3.4 bar)		Maximum Viscosity at Pump Speed Shown	
			gpm	L/min	ssu	cSt
XLW2	2	350	37	140	30,000	6,300
		190	20	76	75,000	15,750
XLW3	3	350	76	288	30,000	6,300
		190	41	155	75,000	15,750
XLW4	4	350	190	719	20,000	4,250
		190	95	360	20,000	4,250
MLX4	4	300	280	1,060	50,000	10,500
		200	190	719	100,000	21,000



# 316 Stainless Steel Pumps

Blackmer SNP, SMVP and SX3 pump models are typically used in handling a wide variety of corrosive or caustic fluids, and liquid foods such as sugars, syrups and flavor extracts. The SX3 is the ideal pump for high-capacity, thin-liquid, corrosive process applications. All series have 316 stainless steel construction. The SNP and SMVP models feature self-lubricating carbon sleeve bearings which allow dry running for priming and line stripping. The SX3 model utilizes external ball bearings protected by chemical mechanical seals with PTFE elastomers. All models are fitted with non-metallic vanes that eliminate galling and provide extended pump life.

The SNP models are available with PTFE impregnated shaft packing, lip seals, triple lip seals, lantern rings or commercial

mechanical seals. An optional two-way relief valve is available on all models through 2 1/2-inch port size. ANSI compatible flanges are standard on sizes through 2 1/2 inches. The SNP3 and SX3 pumps have internal relief valves.

For control of fugitive emissions, the SMVP seal-less series is offered with samarium cobalt magnetic couplings that assure zero shaft leakage. Blackmer SMVP pumps provide the Best Available Control Technology for handling expensive, hazardous or toxic fluids.

The STX1220A offers flow rates up to 92 gpm (348 L/min) and maximum speed of 1,200 rpm, and the STX2A provides flow rates to 60 GPM (227 L/min) and maximum speed of 780 rpm.

ANSI compatible flanges are standard on all SMVP pump models.

## Materials of Construction

Pump Series	Cylinder & Heads	Rotor	Shaft	End Discs	Bearings	Shaft Seal	Seal Rings	Vane Options
SNP	316 Stainless Steel	316 Stainless Steel	Stainless Steel	Carbon or Chem Disc <sup>1</sup>	Metal Impregnated Carbon Sleeve	Packing, Mechanical Seal or Lip Seal	PTFE	Duravane Laminate
SMVP						Seal-less		
STX2, STX1220, SX3				n.a	Low-Friction, Isolated Ball Bearing	Mechanical Seal		Duravane

## Pump Ratings

Pump Series	Maximum Differential Pressure		Maximum Working Pressure		Maximum Fluid Temperature	
	psi	bar	psi	bar	°F	°C
	SNP	150	10.3	200	13.8	400
SMVP	125	8.6	175 <sup>2</sup>	12.1	200	93
STX2, STX1220, SX3	125	8.6	175	12.1	240	115

## Pump Performance Data

Pump Model	Port Size (inches)	Pump Speed (rpm)	Nominal Flow Rate at 50 psi (3.4 bar)		Maximum Viscosity at Pump Speed Shown	
			gpm	L/min	ssu	cSt
SNP1.25	1 1/2	1,750	16	61	5,000	1,050
		640	6	23	15,000	3,150
SNP1.5	1 1/2	1,750	36	136	5,000	1,050
		640	11	42	15,000	3,150
SNP2	2	640	73	276	1,000	220
		190	21	80	40,000	8,500
SNP2.5	2 1/2	640	132	500	1,000	220
		190	40	151	40,000	8,500
SNP3	3	640	265	1,003	500	105
		190	76	288	40,000	8,500
SMVP15	1 1/2	1,750	16	61	5,000	1,050
		1,450	13	49	5,000	1,050
SMVP30	1 1/2	1,750	36	136	5,000	1,050
		1,450	31	117	5,000	1,050
SMVP50	2	1,750	60	227	5,000	1,050
		1,450	50	189	5,000	1,050
SMVP100	2	1,750	122	462	5,000	1,050
		1,450	95	360	5,000	1,050
SMVP200	3	1,150	210	795	2,250	500
		950	175	662	4,500	1,000
SMVP300	4	1,150	320	1,200	2,250	500
		950	260	985	4,500	1,000
STX2	2	350	50	189	4,600	970
		780	16	60	4,600	970
STX1220	2	700	82	310	100	22
		1,200	49	185	100	22
SX3	3	800	250	946	500	105
		400	125	473	20,000	4,250



SX3



SMVP200



SNP1.25 - 1.5 cutaway



SNP3 cutaway

<sup>1</sup>Chem Discs are standard for the SMVP50 through SMVP300 seal-less pump models. Note: Chem Discs are not available for the SMVP15, SMVP30 or SNP pump model.

<sup>2</sup>The maximum working pressure for the SMVP300 pump model is 150 psi (10.3 bar). Please consult factory for applications that require higher working pressures.

# Equipment Testing, Certifications & Special Services

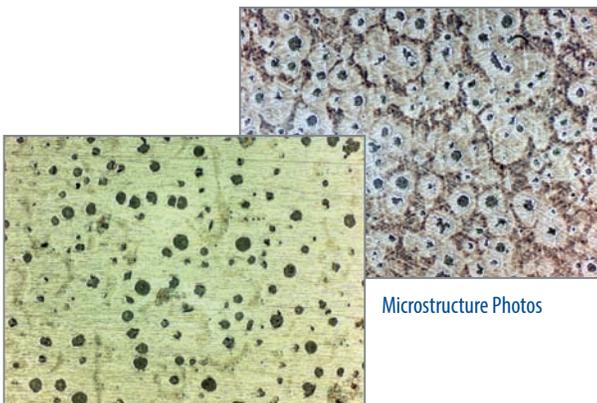
Blackmer manufactures some of the world's most reliable pump and compressor technologies at its Grand Rapids, Michigan, facility. A number of Testing, Certification and Special Service capabilities are available, all designed to provide demonstrated performance for proven peace of mind.

## Production Tests & Reports

- Dry-Vac Test
- Pressurized Leak Test
- Relief Valve Setting Test
- Flow Test
- Hydrostatic Tests

## Certifications

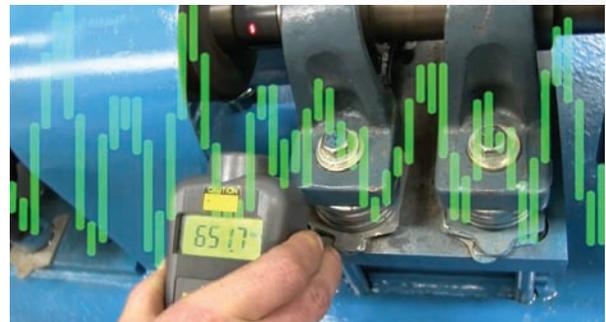
- **Material Certificate:** Data for the actual physical and chemical certificate taken directly from the records of specific inspections of materials poured for the listed castings.
- **Material Certificate with Actual Microstructure Photo:** Microstructure photo derived from specific photos of the material that is poured per the listed castings.
- **Material Report:** Data for the typical physical and chemical certificate derived from records of non-specific inspection of the material poured per the listed castings. *Note: the products inspected are not necessarily the products that are actually supplied.*
- **Typical Microstructure Photo:** Obtained from non-specific photos of the material used in typical construction with the products inspected, not necessarily the products supplied.



- **Positive Metal Identification Report:** Establishes the chemical-material type being used, but is not intended for complete chemical analysis.

## Certified Tests & Reports

- **Hydrostatic Test:** Conducted in accordance with the standards of the Hydraulic Institute.
- **Performance Test:** Data includes serial number, pump type, date of test, differential pressure, horsepower (pump only) or motor amperage (units), and capacity at various pressures.
- **NPSH Test:** Optional with a Certified Performance Test.
- **Noise/Vibration Tests:** Optional with a Certified Performance Test.
- **Customer or Third-Party Witness** for any product test.



Noise decibel testing in the Blackmer performance lab.

*Note: Not all Tests, Certifications and Special Services are applicable to all products, and additional pricing and delivery lead times may apply when any Tests, Certifications or Special Services are requested.*

## Special Services

### For Pumps, Compressors and Units:

- **Certified Drawings:** Standard catalog drawings are certified and delivered with shipment. Must be requested at time of equipment order.
- **General Arrangement (GA)/CAD Drawings:** A copy or reproduction of standard catalog outline drawings. CAD drawings may be requested.
- **In-Plant Inspection:** Inspection of equipment by purchaser prior to shipment.

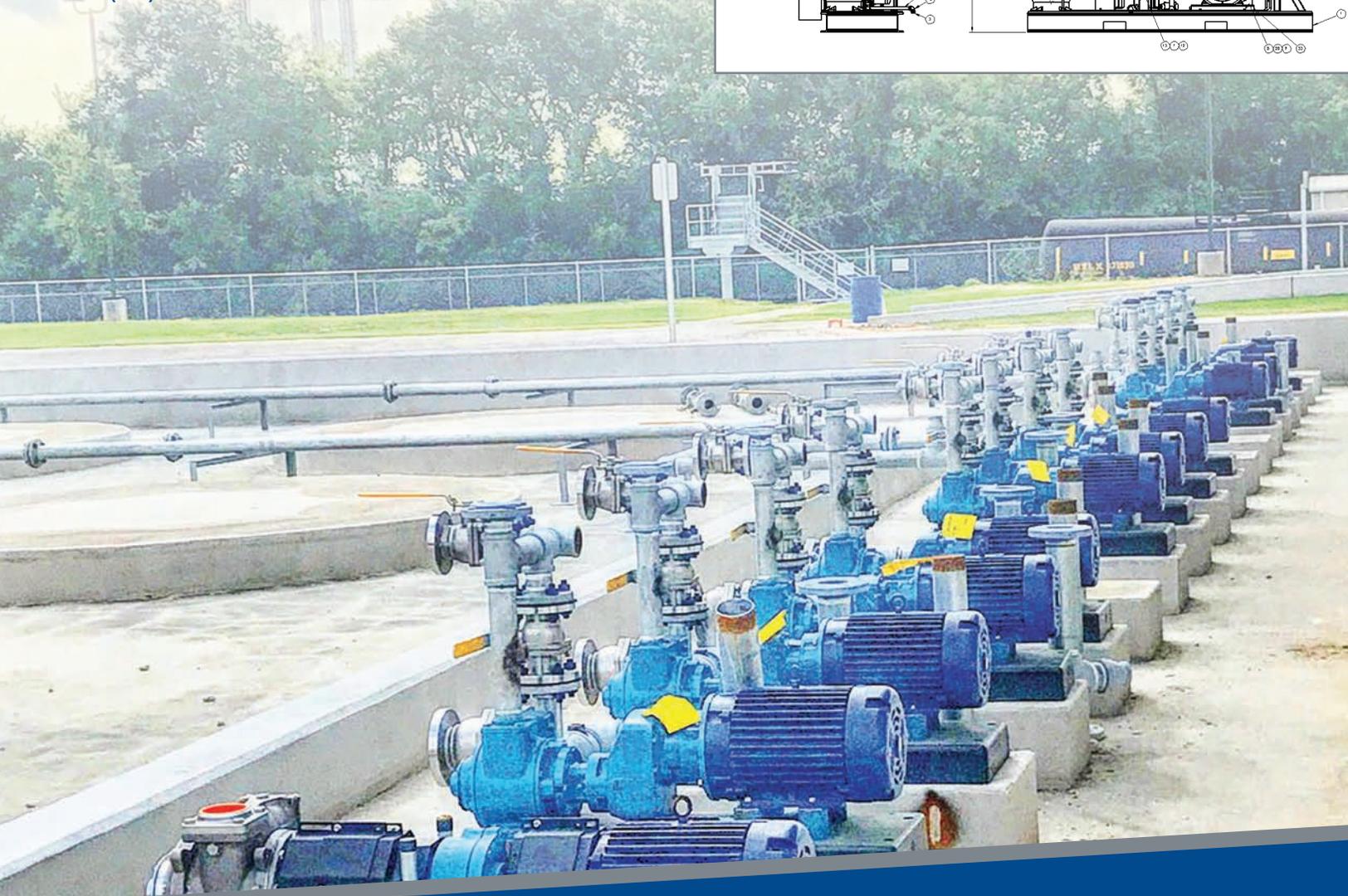
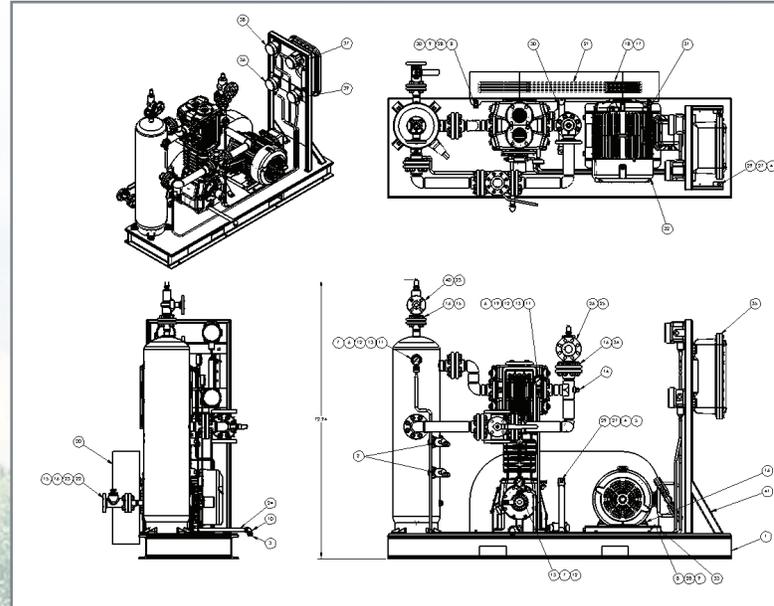
### For Compressors only:

- **Nitrogen Purge:** Compressor is filled with nitrogen prior to shipment.

### For Centrifugal Pumps only:

- **Certification of Impeller Trim/Balance:** Certification of the pump's impeller trim and balance.

Please contact Blackmer's Applications Engineering Help Line at (616) 475-9340 for additional information.





# Engineered Package Solutions

## Complete Solutions Designed for Your Application

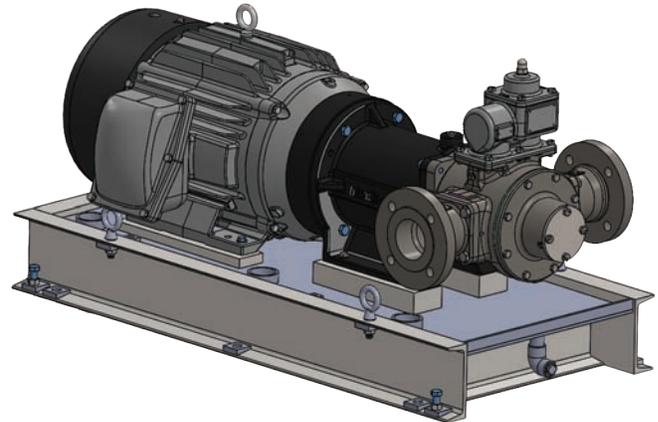
As a global specialist in pump and compressor packages, Blackmer application and design engineers can recommend the most suitable pump or compressor technologies to **create customized package solutions**.

By bringing the assembly of Bases, Drives, Gear Reducers, and Programmable Electronic Controls in-house, Blackmer is able to develop and construct customized engineered package solutions for a range of applications, including:

- Liquid transloading systems
- Mobile defueling system assemblies
- LP gas evacuation compressor packages
- Portable batch processing pump platforms

For **proven quality, single-source solutions, and reliability you can trust** from the leading industry provider of innovative, high-quality rotary vane, regenerative turbine, screw and centrifugal pump, and reciprocating compressor technologies and assemblies, you can depend on Blackmer.

From the baseplate or skid to the control panel, **Blackmer's Engineered Package Solutions** are designed, engineered, and assembled to meet customers' specific applications.



### Packages components can include:

- Pump(s) or Compressor(s)
- Drives
- Gear Reducers
- Piping & Piping Headers
- Valves
- Controls including programmable
- Pressure gauges
- Flow/Pressure Meters
- Tanks
- Fabricated baseplate or skids
- Wiring
- Process Flow Diagrams, Piping Diagrams & Skid Drawings

**For information on Blackmer's Engineered Package Solutions please contact Blackmer's Applications Engineering Help Line at (616) 475-9340 or visit [Blackmer.com](http://Blackmer.com).**





## Additional Products



### Gear reducers and drive arrangements

Blackmer manufactures a wide range of gear reducers and drive arrangements to meet a broad range of application requirements.

Blackmer helical gear reducers are designed for use with 1750, 1150, 1450 and 950 rpm motors up to 50 hp. Blackmer also offers a line of commercial gear reducers for applications that require higher horsepower.

Standard drive arrangements include base mounted units complete with pump and foot-mounted motor, or a NEMA C-face motor.

Special drive arrangements such as gear motors, variable-speed motors, hydraulic drives, gasoline or diesel engines can be furnished. Consult factory for details.



### Hand pumps for transfer and dispensing

Blackmer offers a full line of hand operated rotary pumps for transfer and dispensing of solvents, fuels, lube oils and a wide range of non-corrosive liquids. FM approved models for flammables, geared models for viscous liquids to 30,000 ssu (6,300 cSt), or high volume output. A complete line of accessories is available. For more information and specifications, see Bulletin 301-001.



### Gas compressors for liquid transfer, vapor recovery and pressure boosting

Blackmer oil-free gas compressors deliver high efficiency in handling a wide range of industrial gases.

Both air and water cooled models with single or two-stage options are available. Working pressures to 750 psia (51.7 bar), capacities to 125 cfm (212 m<sup>3</sup>/h). For more information and specifications, request Bulletin 901-001.





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