

Heavy-Duty Cast Iron and Bronze Rotary Close-Coupled External Gear Pumps

Description

Sheritech self-priming, positive displacement, rotary external gear pumps provide a nearly pulseless flow. Standard models are mounted directly to NEMA frame AC Open Drip-Proof (ODP) motors using an easy-installation package, or as pump heads only for custom installations. Standard safety pressure relief valve that is included can be ported internally or externally. Single-phase motors are thermally overload protected; 3-phase ODP motors are not.

Uses: Handle a wide range of industrial, marine, agricultural and commercial applications where non-abrasive and non-particulated fluids compatible with pump wet-end construction component materials are pumped.

- Capacities up to 24.8 GPM.
- Maximum pressure to 125 PSI and working casing pressure to 200 PSI.
- Max. RPM: 1725.
- Suction lift to 19.5 ft.
- Mechanical seals (Viton or Buna) with carbon on ceramic faces with engineered flush chamber for internal or external flush to handle viscosities beyond 2000 SSU.
- Pumps with electric motors are configured to handle up to 500 SSU and 125 PSI at 1725 RPM or run at reduced speeds to handle a wide range of pump fluid viscosities and specific gravity up to 100,000 SSU. (Maximum torque loads are found in the performance chart.)
- Pumps can operate bi-directionally (reversible).
- Temperature ranges from -20° to 280° F.
- Standard adjustable pressure relief valves that can be internally or externally ported are standard.

BRONZE MODELS – Excellent for water-based fluids. Ryton PPS (Polyphenylene Sulfide) spur gears provide quiet operation and chemical compatibility. No metal-to-metal contact. Pumps also have 303 stainless steel shafts and carbon graphite bushings. Buna-N mechanical seal with temperature range of -20° to 210° F. Wet-end parts are constructed from bronze, brass, Ryton PPS, stainless steel (17-7, 303 and/or 18-8), vellumoid, graphite, carbon, ceramic, and Buna-N.

CAST IRON MODELS – Specifically designed to be used with oil-based fluids, not to be used with water-based fluids. Pumps include steel spur gears with steel shafts and cast iron shaft support. Viton mechanical seal has temperature range of 32° to 280° F. Wet-end parts are constructed from cast iron, steel, stainless steel (17-7, 303 and/or 18-8), vellumoid, carbon, ceramic and Viton.

REPAIR SEALS AND OPTIONS – Standard seals are Viton and Buna-N with carbon on ceramic faces. Standard seals can be located in the repair parts list pages in the owner's manual. When switching between Viton and Buna-N mechanical seals, be sure to order the matching o-rings in the same material. These can be found in the repair parts list pages in the owner's manual.

Optional Close-Coupled Gear Speed Reducers are available that mount directly between pump and motor to reduce pump speed for high viscosity or high specific gravity applications (See Appendix 2 in the owner's manual).

NOTE: This series of gear pumps is also available as pedestal models for custom installation. They are not equipped with motors.



WARNING: Do not use to pump flammable or explosive fluids such as gasoline, fuel oil, kerosene, etc. Do not use in flammable and/or explosive atmospheres. When pumping hazardous or dangerous materials, use only in a room or area designated for that purpose. For your protection, always wear proper clothing, eye protection, etc. in case of any malfunction. For proper handling techniques and cautions, contact your chemical supplier, insurance company and local agencies (fire dept., etc.). Failure to comply with this warning could result in personal injury and/or property damage.

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Model Ordering Codes and Options



Example Model: GMCV5VB63 (2 HP ODP motor with >1.15 Service Factor*)
(motor not supplied with pedestal pump)

1st	2nd	3rd	4th	5th	6th	7th	8th
Mounting	Material	Seal (Mech)	Gear** Size: Ports	Options	Motor-Mounted Only		
					Brackets	HP	AC Type
GM: Gear Motor Mount*	C: Cast Iron B: Bronze	N: Buna-N V: Viton	2: 1/4" 3: 3/8" 4: 1/2" 5: 3/4" 6: 1"	V: Pressure Relief Valve (standard)	A: 56C B: 143/145TC C: 182/184TC	1: 1/3 2: 1/2 3: 3/4 4: 1 5: 1½ 6: 2 7: 3	"Blank": no code single phase ODP motor 3: 3 phase ODP motor T: 1 phase TEFC 3T: 3 phase TEFC

NOTE: Not all order code combinations (configurations) are standard models available from the manufacturer. Custom model configurations may require ordering standard components and/or optional parts that will need to be assembled by the customer.

Manufacturer reserves the right to change model order codes, standard models, specifications, and performance without notification.

(*) ODP motors have > 1.15 service factors. Due to service factor, it is recommended TEFC motors are oversized by one HP increment.

Pedestal Pumps are not supplied with a motor.

(**) Bronze models have Ryton PPS (Polyphenylene Sulfide) gears. Cast Iron models have steel gears.

Maximum motor speed is 1725 RPM.

Cast iron is not for use with water-based fluids.

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Performance

Bronze Models	Cast Iron Models	*Port Size	Max. Input Torque in.-lbs.	Pump RPM	Suction** Lift (ft)	GPM Pumping 10 Wt. Oil at 70° F (500 SSU)											
						Free Flow GPM	HP	25 PSI GPM	HP	50 PSI GPM	HP	75 PSI GPM	HP	100 PSI GPM	HP	125 PSI GPM	HP
GMBN2VA***	GMCV2VA***	1/4"	45	900	1.5	2.5	1/4	2.5	1/4	2.4	1/4	2.3	1/4	2.1	1/4	1.8	1/3
GMBN2VA***	GMCV2VA***	1/4"	45	1200	2.2	3.3	1/4	3.3	1/4	3.2	1/4	3.1	1/3	2.9	1/3	2.6	1/2
GMBN2VA***	GMCV2VA***	1/4"	45	1725	3.5	4.8	1/4	4.8	1/3	4.7	1/2	4.6	1/2	4.4	3/4	4.1	3/4
GMBN2VA3	GMCV2VA3	1/4"	45	1725	3.5	4.8	1/4	4.8	1/3	4.7	1/2	4.6	1/2	4.4	3/4	4.1	3/4
GMBN2VA33	GMCV2VA33	1/4"	45	1725	3.5	4.8	1/4	4.8	1/3	4.7	1/2	4.6	1/2	4.4	3/4	4.1	3/4
GMBN3VA***	GMCV3VA***	3/8"	90	900	2.8	3.7	1/4	3.6	1/3	3.5	1/3	3.4	1/2	3.2	1/2	2.8	3/4
GMBN3VA***	GMCV3VA***	3/8"	90	1200	5.7	4.9	1/4	4.8	1/3	4.7	1/2	4.6	1/2	4.4	3/4	4.0	3/4
GMBN3VA***	GMCV3VA***	3/8"	90	1725	7.9	7.0	1/2	6.9	1/2	6.8	3/4	6.7	1	6.5	1	6.1	1½
GMBN3VA4	GMCV3VA4	3/8"	90	1725	7.9	7.0	1/2	6.9	1/2	6.8	3/4	6.7	1	6.5	1	6.1	1½
GMBN3VA43	GMCV3VA43	3/8"	90	1725	7.9	7.0	1/2	6.9	1/2	6.8	3/4	6.7	1	6.5	1	6.1	1½
GMBN4VA***	GMCV4VA***	1/2"	90	900	5.1	5.6	1/3	5.5	1/3	5.4	1/2	5.3	3/4	5.0	1	4.5	1
GMBN4VA***	GMCV4VA***	1/2"	90	1200	6.7	7.5	1/3	7.4	1/2	7.3	3/4	7.2	1	6.9	1	6.4	1½
GMBN4VA***	GMCV4VA***	1/2"	90	1725	12.3	10.8	1/2	10.7	3/4	10.6	3/4	10.5	1	10.2	1½	9.7	1½
GMBN4VA5	GMCV4VA5	1/2"	90	1725	12.3	10.8	1/2	10.7	3/4	10.6	3/4	10.5	1	10.2	1½	9.7	1½
GMBN4VA53	GMCV4VA53	1/2"	90	1725	12.3	10.8	1/2	10.7	3/4	10.6	3/4	10.5	1	10.2	1½	9.7	1½
GMBN5VB***	GMCV5VB***	3/4"	160	900	6.6	10.8	1/2	10.6	3/4	10.5	3/4	10.4	1	10.0	1	9.4	1½
GMBN5VB***	GMCV5VB***	3/4"	160	1200	9.3	14.3	1/2	14.2	3/4	14.1	1	13.9	1½	13.5	1½	12.9	2
GMBN5VB***	GMCV5VB***	3/4"	160	1725	15.2	20.6	3/4	20.5	1	20.3	1½	20.2	2	19.8	2	19.2	3
GMBN5VB6	GMCV5VB6	3/4"	160	1725	15.2	20.6	3/4	20.5	1	20.3	1½	20.2	2	19.8	2	19.2	3
GMBN5VB63	GMCV5VB63	3/4"	160	1725	15.2	20.6	3/4	20.5	1	20.3	1½	20.2	2	19.8	2	19.2	3
GMBN6VC***	GMCV6VC***	1"	160	900	8.1	12.6	1/2	12.5	3/4	12.3	1	12.1	1	11.7	1½	11.1	1½
GMBN6VC***	GMCV6VC***	1"	160	1725	19.5	24.8	3/4	24.7	1	24.5	1½	24.3	1½	23.9	2	23.3	2
GMBN6VC***	GMCV6VC***	1"	160	1725	19.5	24.8	3/4	24.7	1	24.5	1½	24.3	2	23.9	3	23.3	3
GMBN6VC7	GMCV6VC7	1"	160	1725	19.5	24.8	3/4	24.7	1	24.5	1½	24.3	2	23.9	3	23.3	3
GMBN6VC73	GMCV6VC73	1"	160	1725	19.5	24.8	3/4	24.7	1	24.5	1½	24.3	2	23.9	3	23.3	3

Test data taken on SAE 10 wt. oil at 70° F (500 SSU).

Performance in water will decrease by about 10%, and HP required will also be reduced by 10%. (Don't use water with Cast Iron.)

Pump performance when pump is new. As pump wears, the performance will decrease.

(*) Female NPT inlet and outlet (in inches).

(**) Suction lift requires wetted gears and primed seal chamber.

(***) Motor not provided.

NOTES: Pumps with motors are HP rated to handle up to 500 SSU at 125 PSI and specific gravity of 1.0.

Max. PSI = 125

Max. Viscosity = 500 SSU at 1725 RPM with standard spur gears

Max. RPM = 1725

Max. Specific Gravity = 1.1 at 125 PSI, up to 1.6 at lower PSI & viscosity.

Max. Input Torque = See chart above.

Reverse Rotation = Pumps are equipped with pressure relief valves and can be run in reverse rotation; however, pressure relief valve will not function when pump is reversed unless pump relief valve cover is rotated 180°.

The pump relationship between volume (GPM), pressure (PSI), speed (RPM) and horsepower is shown on performance chart in SherTech Motor Manual form L-4082. When pumping a more viscous liquid, a slower speed, a larger pipe size pump, and possibly a larger motor should be selected.

Manufacturer reserves the right to change performance without notification.

To Order Optional Motors

For custom applications or configurations, select a pump head from above and a C-Frame motor from the motor section of this catalog.

Source: Owner's Manual L-4087 (11/07)

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Price List and Specifications for Standard Pump Heads (motor not included)

List Price	Model	NEMA Motor Frame Required	Max. RPM	Pump Shaft Dia.	Required Motor Shaft Dia.	Motor Adapter	PUMP CONSTRUCTION (Wet End)								Ship Wt. (lbs.)
							Port Size NPT	Body & Cover Castings	Gears	Pressure Relief Valve*	Shaft	Bushing Material	Gasket	Seal & O-Rings*	
Bronze Models															
\$	GMBN2VA	56C	1725	5/8 Spline	5/8 Keyed	CI	1/4	Bronze	Ryton	BR & SS	303 SS	CG	Vellumoid	Buna-N	10.5
\$	GMBN3VA	56C	1725	5/8 Spline	5/8 Keyed	CI	3/8	Bronze	Ryton	BR & SS	303 SS	CG	Vellumoid	Buna-N	11.2
\$	GMBN4VA	56C	1725	5/8 Spline	5/8 Keyed	CI	1/2	Bronze	Ryton	BR & SS	303 SS	CG	Vellumoid	Buna-N	12.8
\$	GMBN5VB	143/145TC	1725	20mm Spline	7/8 Keyed	CI	3/4	Bronze	Ryton	BR & SS	303 SS	CG	Vellumoid	Buna-N	19.8
\$	GMBN6VC	182/184TC	1725	20mm Spline	1 1/8 Keyed	CI	1	Bronze	Ryton	BR & SS	303 SS	CG	Vellumoid	Buna-N	22.8
Cast Iron Models															
\$	GMCV2VA	56C	1725	5/8 Spline	5/8 Keyed	CI	1/4	CI	Steel	Steel & SS	Steel	CI	Vellumoid	Viton	11.2
\$	GMCV3VA	56C	1725	5/8 Spline	5/8 Keyed	CI	3/8	CI	Steel	Steel & SS	Steel	CI	Vellumoid	Viton	12.6
\$	GMCV4VA	56C	1725	5/8 Spline	5/8 Keyed	CI	1/2	CI	Steel	Steel & SS	Steel	CI	Vellumoid	Viton	13.4
\$	GMCV5VB	143/145TC	1725	20mm Spline	7/8 Keyed	CI	3/4	CI	Steel	Steel & SS	Steel	CI	Vellumoid	Viton	18.7
\$	GMCV6VC	182/184TC	1725	20mm Spline	1 1/8 Keyed	CI	1	CI	Steel	Steel & SS	Steel	CI	Vellumoid	Viton	19.0

Ryton = PPS (Polyphenylene Sulfide) SS = Stainless Steel CG = Carbon Graphite CI = Cast Iron BR = Brass

(*) Bronze models are made of brass and/or bronze and stainless steel (17-7, 303 and/or 18-8). Cast iron models are made of cast iron, steel and stainless steel (17-7, 303 and/or 18-8).

(**) Made from 18-8 SS and carbon on ceramic. O-rings are Buna-N or Viton to match the seal type.

NOTES: Dimensions are in inches unless otherwise noted.

Pump ships complete with all drive components, less motor.

Manufacturer reserves the right to change specifications without notification.

Price List and Specifications for Standard Motor-Mounted Models (motor included)

List Price	Model	AC Motor				Pump Shaft Size Dim.	Motor Shaft Dim.	Motor Adapter	PUMP CONSTRUCTION (Wet End)								Ship Wt. (lbs.)			
		Motor HP	Motor Type*	NEMA Frame	Motor Voltage				Amps	PH*	Motor RPM	Port Size NPT	Body & Cover Castings	Gears	Pressure Relief Valve**	Shaft		Bushing Material	Gasket	Seal & O-Rings**
Bronze Models																				
\$	GMBN2VA3	3/4	ODP	56C	115/230	11.2/5.6	1	1725	5/8 Spline	5/8 Keyed	CI	1/4	Bronze	Ryton	BR & SS	303 SS	CG	Vellumoid	Buna-N	37.5
\$	GMBN2VA33	3/4	ODP	56C	230/460	2.6/1.3	3	1725	5/8 Spline	5/8 Keyed	CI	1/4	Bronze	Ryton	BR & SS	303 SS	CG	Vellumoid	Buna-N	35.5
\$	GMBN3VA4	1	ODP	56C	115/230	13.2/6.6	1	1725	5/8 Spline	5/8 Keyed	CI	3/8	Bronze	Ryton	BR & SS	303 SS	CG	Vellumoid	Buna-N	45.2
\$	GMBN3VA43	1	ODP	56C	230/460	3.2/1.6	3	1725	5/8 Spline	5/8 Keyed	CI	3/8	Bronze	Ryton	BR & SS	303 SS	CG	Vellumoid	Buna-N	39.2
\$	GMBN4VA5	1 1/2	ODP	56C	115/230	18.4/9.2	1	1725	5/8 Spline	5/8 Keyed	CI	1/2	Bronze	Ryton	BR & SS	303 SS	CG	Vellumoid	Buna-N	51.8
\$	GMBN4VA53	1 1/2	ODP	56C	230/460	4.8/2.4	3	1725	5/8 Spline	5/8 Keyed	CI	1/2	Bronze	Ryton	BR & SS	303 SS	CG	Vellumoid	Buna-N	41.8
\$	GMBN5VB6	2	ODP	143/145TC	115/230	21.2/10.6	1	1725	20mm Spline	7/8 Keyed	CI	3/4	Bronze	Ryton	BR & SS	303 SS	CG	Vellumoid	Buna-N	64.8
\$	GMBN5VB63	2	ODP	143/145TC	230/460	6.0/3.0	3	1725	20mm Spline	7/8 Keyed	CI	3/4	Bronze	Ryton	BR & SS	303 SS	CG	Vellumoid	Buna-N	54.8
\$	GMBN6VC7	3	ODP	182/184TC	230	14.7	1	1725	20mm Spline	1 1/8 Keyed	CI	1	Bronze	Ryton	BR & SS	303 SS	CG	Vellumoid	Buna-N	92.8
\$	GMBN6VC73	3	ODP	182/184TC	230/460	8.2/4.1	3	1725	20mm Spline	1 1/8 Keyed	CI	1	Bronze	Ryton	BR & SS	303 SS	CG	Vellumoid	Buna-N	80.8
Cast Iron Models																				
\$	GMCV2VA3	3/4	ODP	56C	115/230	11.2/5.6	1	1725	5/8 Spline	5/8 Keyed	CI	1/4	CI	Steel	Steel & SS	Steel	CI	Vellumoid	Viton	38.2
\$	GMCV2VA33	3/4	ODP	56C	230/460	2.6/1.3	3	1725	5/8 Spline	5/8 Keyed	CI	1/4	CI	Steel	Steel & SS	Steel	CI	Vellumoid	Viton	36.2
\$	GMCV3VA4	1	ODP	56C	115/230	13.2/6.6	1	1725	5/8 Spline	5/8 Keyed	CI	3/8	CI	Steel	Steel & SS	Steel	CI	Vellumoid	Viton	46.6
\$	GMCV3VA43	1	ODP	56C	230/460	3.2/1.6	3	1725	5/8 Spline	5/8 Keyed	CI	3/8	CI	Steel	Steel & SS	Steel	CI	Vellumoid	Viton	40.6
\$	GMCV4VA5	1 1/2	ODP	56C	115/230	18.4/9.2	1	1725	5/8 Spline	5/8 Keyed	CI	1/2	CI	Steel	Steel & SS	Steel	CI	Vellumoid	Viton	52.4
\$	GMCV4VA53	1 1/2	ODP	56C	230/460	4.8/2.4	3	1725	5/8 Spline	5/8 Keyed	CI	1/2	CI	Steel	Steel & SS	Steel	CI	Vellumoid	Viton	42.4
\$	GMCV5VB6	2	ODP	143/145TC	115/230	21.2/10.6	1	1725	20mm Spline	7/8 Keyed	CI	3/4	CI	Steel	Steel & SS	Steel	CI	Vellumoid	Viton	63.7
\$	GMCV5VB63	2	ODP	143/145TC	230/460	6.0/3.0	3	1725	20mm Spline	7/8 Keyed	CI	3/4	CI	Steel	Steel & SS	Steel	CI	Vellumoid	Viton	53.7
\$	GMCV6VC7	3	ODP	182/184TC	230	14.7	1	1725	20mm Spline	1 1/8 Keyed	CI	1	CI	Steel	Steel & SS	Steel	CI	Vellumoid	Viton	89.0
\$	GMCV6VC73	3	ODP	182/184TC	230/460	8.2/4.1	3	1725	20mm Spline	1 1/8 Keyed	CI	1	CI	Steel	Steel & SS	Steel	CI	Vellumoid	Viton	77.0

Ryton = PPS (Polyphenylene Sulfide) SS = Stainless Steel CG = Carbon Graphite CI = Cast Iron ODP = Open Drip-Proof BR = Brass

(*) Motors are rated at 60 hertz only. Single-phase motors are thermally overload protected and three-phase motors are not thermally protected. Thermal overloads may be manual or automatic.

(**) Bronze models are made of brass and/or bronze and stainless steel (17-7, 303 and/or 18-8). Cast iron models are made of cast iron, steel and stainless steel (17-7, 303 and/or 18-8).

(***) Made from 18-8 SS and carbon on ceramic. O-rings are Buna-N or Viton to match the seal type.

NOTES: Dimensions are in inches unless otherwise noted.

Driver data is subject to change without notice; see label on driver for specifications and wiring information.

Manufacturer reserves the right to change specifications without notification.