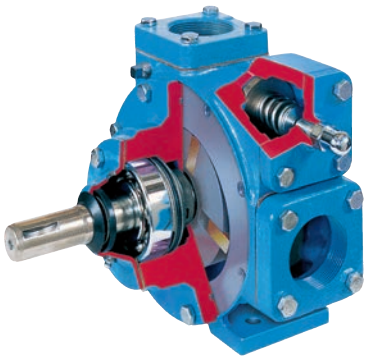
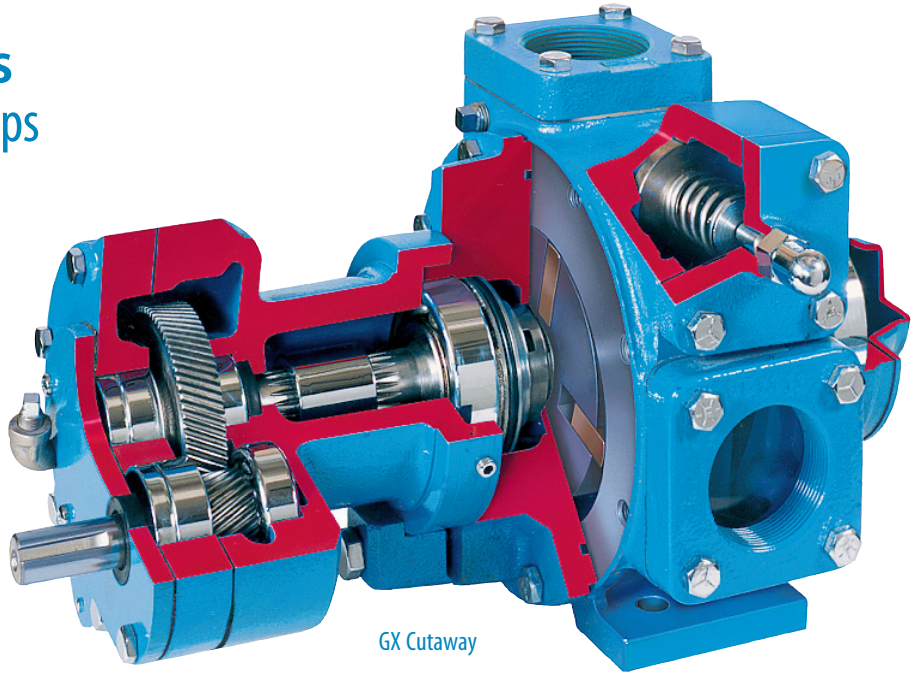
Spec Sheet 101-003

Section: 101
Effective: January 2012
Replaces: November 2009

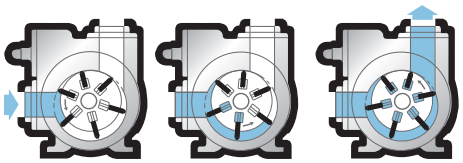
GX & X Series
General Duty Pumps



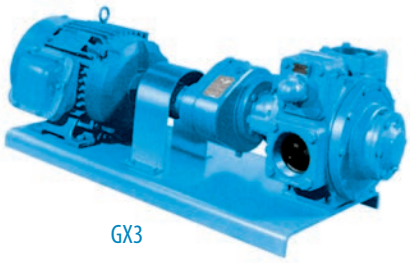
X2 cutaway



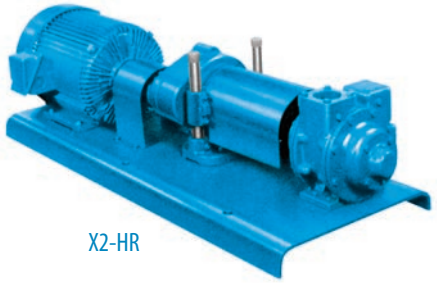
GX Cutaway



How Blackmer's sliding vane action works



GX3



X2-HR

Design

Blackmer's GX and X series models are available in 2, 2.5, 3 and 4-inch flanged port sizes with capacities from 30 to 520 U.S. gpm (114-1,855 L/min). Cast iron construction is standard on all models except the X4 model which is ductile iron construction. All models have external ball bearings isolated from the pumpage by mechanical seals.

The GX type pumps feature an integral head-mounted gear reduction drive with oil lubricated, hardened helical gears that provide quiet trouble-free operation. Gear shafts are supported at both ends by ball bearings for smooth operation and long life.

A splined shaft simplifies alignment of the pump and reducer, and the reducer can be rotated on the pump head to accommodate a variety of motor sizes without shimming.

Application

Blackmer's GX and X type pumps are designed to handle a wide range of non-corrosive, non-abrasive industrial liquids and petroleum products. Typical applications include fuel oils, lube oils, jet fuels, gasoline, edible oils and a variety of solvents and thinners such as esters, ketones, naphthas, ethers, amines, aromatics, alcohols, terpenes, glycols and many other similar liquids.

Benefit

Blackmer's positive displacement rotary pumps utilizing their unique sliding vane design offers the best combined characteristics of sustained high level performance, energy efficiency, trouble-free operation and low maintenance cost. Also, the high suction lift capability of these pumps makes them especially suitable for pumping from underground tanks, bulk plant service and aircraft refueling.

Performance Data*

Pump Model	GX2, X2				GX2.5, X2.5				GX3, X3				GX4, X4				
Rated Pump Speed (rpm)	640	520	420	350	640	520	420	350	640	520	420	350	500	400	300	230	190
U.S. gpm	70	55	44	36	121	96	76	63	270	220	177	146	507	404	299	225	190
L/min	264	210	165	135	461	363	288	237	1023	835	671	544	1919	1532	1135	855	695
hp	3.2	2.6	2.0	1.7	4.7	3.7	2.9	2.4	11.2	8.5	6.5	5.2	20.8	15.9	11.5	8.6	7.0

* Approximate capacities and horsepower (HP) are based on a 100 ssu (22 cSt) fluid at a 50 psi (3.45 bar) differential pressure.
Refer to Characteristic Curves for capacities and horsepower at other pressures and viscosities.
Centipoise (cP) = Centistokes (cSt) at fluid specific gravity of 1.0

Maximum Operating Limits

Pump Model	Maximum Pump Speed			Minimum Pump Speed			Maximum Differential Pressure	Maximum Working Pressure	Maximum Operating Temperature
	Speed	Flow[2]	Viscosity[3]	Speed	Flow[2]	Viscosity[3]			
	rmp	gpm (L/min)	ssu (cSt)[4]	rpm	gpm (L/min)	ssu (cSt)[4]	psi (bar)	psi (bar)	°F (°C)
GX2[1]	780	87 (329)	100 (22)	190	20 (76)	20,000 (4,250)	125 (8.6)	175 (12.1)	300 (149)
X2	780	87 (329)	100 (22)	68	7 (26)	20,000 (4,250)	125 (8.6)	175 (12.1)	300 (149)
GX2.5	780	155 (587)	100 (22)	190	33 (125)	20,000 (4,250)	125 (8.6)	175 (12.1)	300 (149)
X2.5	780	155 (587)	100 (22)	68	12 (45)	20,000 (4,250)	125 (8.6)	175 (12.1)	300 (149)
GX3[1]	640	270 (1,022)	100 (22)	125	46 (174)	20,000 (4,250)	125 (8.6)	175 (12.1)	300 (149)
X3	640	270 (1,022)	100 (22)	68	28 (106)	20,000 (4,250)	125 (8.6)	175 (12.1)	300 (149)
GX4[1]	520	528 (1,999)	100 (22)	100	90 (341)	20,000 (4,250)	125 (8.6)	175 (12.1)	300 (149)
X4	520	528 (1,999)	100 (22)	68	66 (250)	20,000 (4,250)	125 (8.6)	175 (12.1)	300 (149)

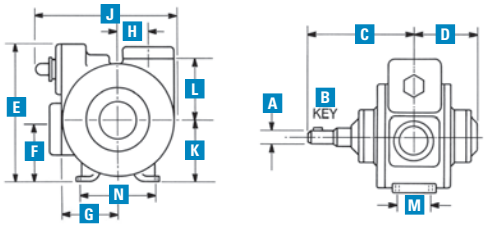
[1] GX pump models are limited by gear reducer capability (pressure / rpm / viscosity dependent).
[2] Flow is normal at 50 psi (3.45 bar) differential pressure.
[3] Viscosity listed is maximum. Blackmer GX and X pump models are also well suited for viscosities less than 31 ssu (1 cSt).
[4] Centipoise (cP) = Centistokes (cSt) at fluid specific gravity of 1.0
Note: Optional materials of construction may be required to meet specific application requirements – refer to Blackmer Material of Construction Sheet 101-095.

Pipe Companion Flanges

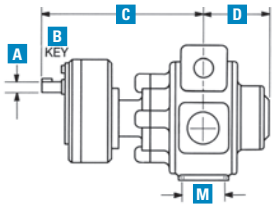
Pump Model	Standard	Optional
GX2[1], X2	2" NPT	2" Blackmer Weld
		2" ANSI**
GX2.5, X2.5	2.5" NPT	2.5" Blackmer Weld
		3" ANSI**
GX3, X3	3" NPT	3" Blackmer Weld
		3" ANSI**
GX4, X4	4" NPT	4" Blackmer Weld
		4" ANSI**

** ANSI Compatible flanges are Raised Flat Faced.

Dimensions



GX and X Pump Models



GX Pump Models

Pump Model		A	B	C	D	E	F	G	H	J	K	L	M	N	Approx. Wt. with Std. Flanges
GX2	in.	3/4	3/16	11 9/16	5 3/8	8 11/16	3 1/2	4	1 1/2	9 3/4	4	4 1/8	1 5/8	5	110 lbs.
	mm	–	–	294	137	221	89	102	38	248	102	105	41	127	50 kg
GX2.5	in.	3/4	3/16	12 5/16	6	9 5/8	3 3/4	4 5/16	1 3/4	10 11/16	4	5 1/16	3	5 1/2	130 lbs.
	mm	–	–	313	152	244	95	110	44	271	102	129	76	140	59 kg
GX3	in.	1	1/4	14 1/2	6 1/2	12 3/16	4 5/8	5	2 1/2	13 3/8	5 3/8	5 1/4	2 1/2	6	230 lbs.
	mm	–	–	368	165	310	117	127	64	340	137	133	64	152	104 kg
GX4	in.	1 1/8	1/4	18 5/8	8 1/8	15 1/2	5	7 3/8	2 1/2	16 7/8	6 3/8	8	4 1/2	8	430 lbs.
	mm	–	–	473	206	394	127	187	64	429	162	203	114	203	195 kg

Pump Model		A	B	C	D	E	F	G	H	J	K	L	M	N	Approx. Wt. with Std. Flanges
X2	in.	1 1/8	1/4	8	5 3/8	8 11/16	3 1/2	4	1 1/2	9 3/4	4	4 1/8	1 5/8	5	110 lbs.
	mm	–	–	203	137	221	89	102	38	248	102	105	41	127	50 kg
X2.5	in.	1 1/8	1/4	8 3/4	6	9 5/8	3 3/4	4 15/16	1 3/4	10 11/16	4	5 1/16	3	5 1/2	130 lbs.
	mm	–	–	222	152	244	95	110	44	271	102	129	76	140	59 kg
X3	in.	1 1/8	1/4	9 5/8	6 1/2	12 3/16	4 5/8	5	2 1/2	13 3/8	5 3/8	5 1/4	2 1/2	6	230 lbs.
	mm	–	–	244	165	310	117	127	64	340	137	133	64	152	104 kg
X4	in.	1 1/2	3/8	11	8 1/8	15 1/2	5	7 3/8	2 1/2	16 7/8	6 3/8	8	4 1/2	8	430 lbs.
	mm	–	–	280	206	394	127	187	64	429	162	203	114	203	195 kg

VERDER NV
Kontichsesteenweg 17
B-2630 Aartselaar
Belgium

TEL +32 3 877 11 12
FAX +32 3 877 05 75
MAIL info@verder.be
WEB www.verder.be

AT Wien **BE** Aartselaar **BG** Sofia **CH** Basel **CN** Shanghai **CZ** Praha
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