



Spec Sheet 203-003

Section: 203

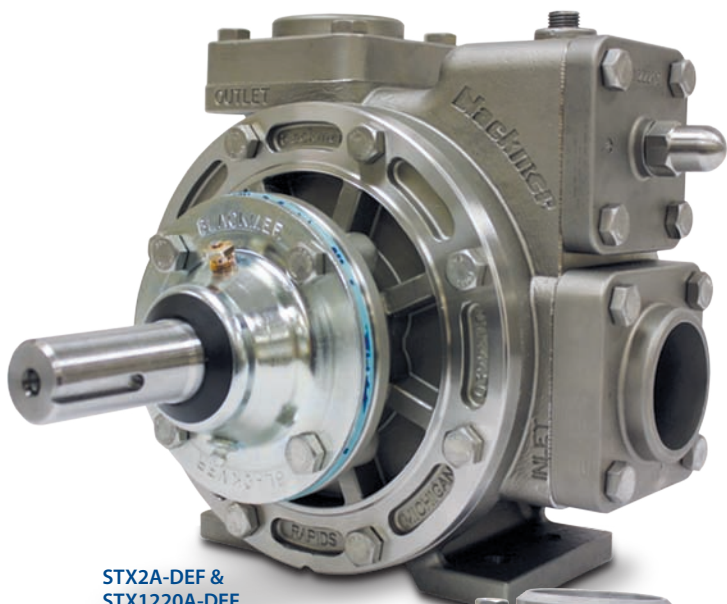
Effective: September 2017

Replaces: March 2012



STX DEF Series

Stainless Steel Transport Pumps for Diesel Exhaust Fluid (DEF)



STX2A-DEF &
STX1220A-DEF



STX3-DEF

Design

Blackmer's STX DEF Series pumps meet or exceed all industry specifications for DEF Aqueous Urea Solutions (AUS32). Made from 316 stainless steel, the pumps feature external ball bearings, non-metallic Duravanes, PTFE elastomers and Blackmer chemical mechanical seals. The design also includes an adjustable relief valve, weld flanges and self-priming capability. The STX3-DEF has a versatile mounting bracket.

Application

Applications include DEF transport and railcar loading and off-loading, as well as DEF tote filling.

The STX3-DEF offers flow rates up to 250 gpm (946 L/min) with differential pressures up to 125 psi (8.6 bar) and maximum speed of 800 rpm. The STX1220A-DEF offers flow rates up to 92 gpm (348 L/min) and maximum speed of 1,200 rpm, and the STX2A-DEF provides flow rates to 60 GPM (227 L/min) and maximum speed of 780 rpm.

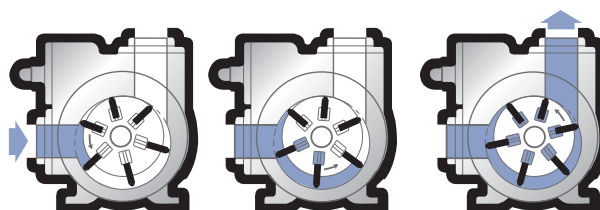
Benefit

Blackmer's STX3-DEF offers fast fluid off-loading. A typical off-loading of a 6,000 gallon (22,700 liter) tanker can be unloaded as quickly as 24 minutes.

Blackmer's non-metallic vanes self-compensate for wear and allow the STX DEF Series pumps to run dry for short periods of time for self-priming and blowing lines clean, without pump damage.

The STX DEF Series is designed to offer easy maintenance because the internal wear is limited almost completely to the sliding vanes, which can be replaced with ordinary hand tools.

Tank Truck Service & Sales, Inc.
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How Blackmer's sliding vane action works

Characteristic Flow Rates

Pump Model	Pump Speed rpm	Pump Capacity @ 50 psid (3.45 bar) with 30 ssu (1 cSt) Fluid			Maximum Fluid Viscosity at rpm Shown	
		US gpm	L/min	m ³ /h	ssu	cSt
STX2A-DEF	780	50	189	11.3	30	1
	520	30	113	6.8	1,000	210
	350	16	60	3.6	4,600	970
STX1220A-DEF	1,200	82	310	18	100	22
	1,000	72	273	16	100	22
	700	49	185	11	100	22
STX3-DEF	800	250	946	57	500	105
	600	190	719	43	5,000	1,050
	400	125	473	28	20,000	4,250

Pump Horsepower Requirements

Pump Model	Pump Speed rpm	30 ssu (1 cSt) Viscosity		50 ssu (13 cSt) Viscosity	
		50 psi (3.45 bar)	100 psi (6.9 bar)	50 psi (3.45 bar)	100 psi (6.9 bar)
STX2A-DEF	780	2.4	4.3	—	—
	520	1.5	2.9	1.7	3.1
	350	1	1.9	1.1	2.1
STX1220A-DEF	1,200	4.0	6.9	4.2	7.3
	1,000	3.4	5.6	3.6	6.0
	700	2.3	3.8	2.4	4.1
STX3-DEF	800	9.5	17.5	9.8	17.9
	600	6.7	12.8	6.9	13.2
	400	4.2	8.0	4.3	8.3

Refer to Blackmer Characteristic Curves for flow rates and torque requirements for your specific conditions.

Maximum Operating Limits

Pump Model	Nominal Flow Rate			Pump Speed rpm	Viscosity		Differential Pressure		Working Pressure		Temperature	
	US gpm	L/min	m ³ /h		ssu	cSt	psi	bar	psi	bar	°F	°C
STX2A-DEF	60	227	13.6	780	4,600	970	125	8.6	200	13.8	240	115
STX1220A-DEF	92	348	21	1,200	100	22	125	8.6	200	13.8	240	115
STX3-DEF	250	946	57	800	20,000	4,250	125	8.6	200	13.8	240	115

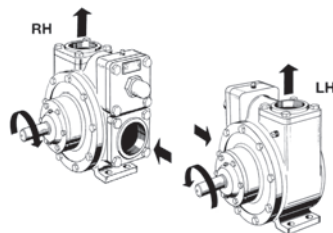
Pump Dimensions

Pump Model	A	B	D	E	G	K	M	Q	S	T	AA	BB	DD		TT	Approx. Weight	
													1 1/2" HYD Motor Shaft	1" HYD Motor Shaft			
STX2A-DEF & STX1220A-DEF	in.	1 1/2	3/4	8	5 1/4	3 1/2	6 1/2	4	8 1/16	6 1/8	3 3/8	8 3/8	8 3/8	10 3/8	10 3/8	12 3/8	70 lbs.
	mm	—	—	203	133	89	165	102	221	156	98	222	211	276	268	308	32 kg

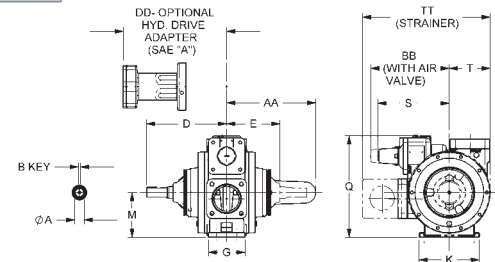
Pump Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Approx. Weight	
																STX3-DEF
	mm	35	10	54	242	127	283	155	159	133	95	137	203	118	57	60 kg

Pump Rotation

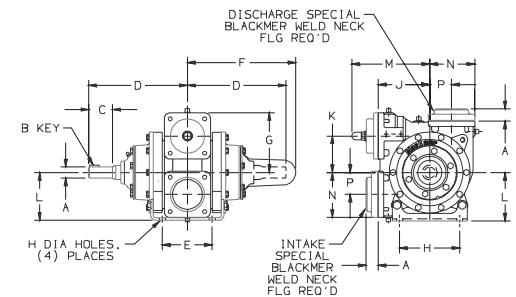
Blackmer's STX pump models are equipped with a double-ended straight-keyed drive shaft for either clockwise (RH) or counterclockwise (LH) rotation.



STX1220A-DEF & STX2A-DEF



STX3-DEF



Authorized PSG® Partner:

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