

A Gardner Denver Product

CHEMSTEEL SERIES SM207 METALLIC

CHEMSTEEL

CHEMSTEEL PUMPS SERIES SM207 M

PERFORMANCE



FEATURES

Gear/bearing design allows for "trimming" for optimizing the pump's maximum flow to reach minimum turndown or to match flow to a specific OEM's requirement.

Special materials combinations are available for specific liquids:

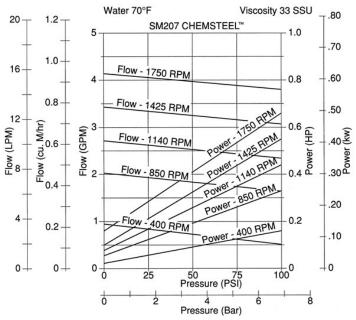
- Stainless or Alloy C housing construction.
- Gears available in metallic 316 stainless, W88 stainless and Alloy C. Also in Polytetrafluoroethylene, polyphenylenesulfide and polyetheretherketone.
- Shafts are 316 stainless steel or Alloy C.
- Bearings available in Carbon and Polytetrafluoroethylene

DRIVE

The pump is driven directly from the electric motor shaft by means of a flexible coupling. A close-coupled adapter connects the pump to the motor.

LIQUIDS AND TEMPERATURE

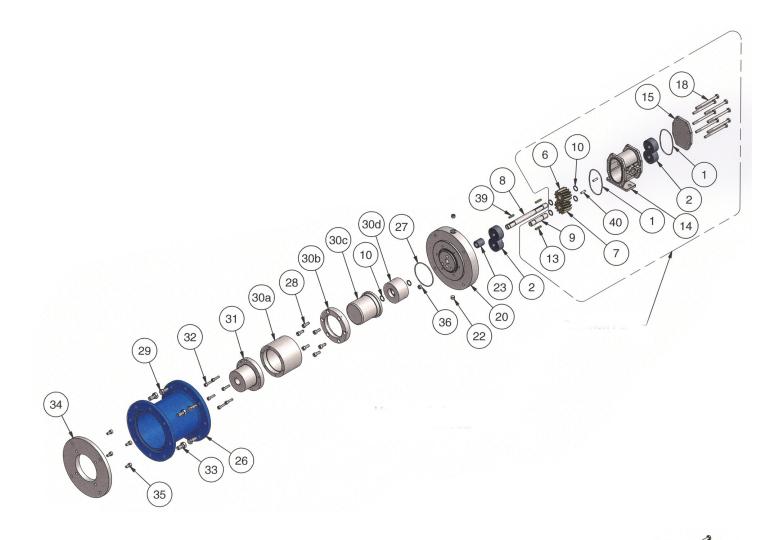
This pump is suitable to handle clear lubricating and nonlubricating fluids at temperatures to 450F. These pumps will handle viscous fluids to 100,000 cps (462,000 SSU) at reduced shaft speeds.

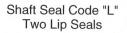


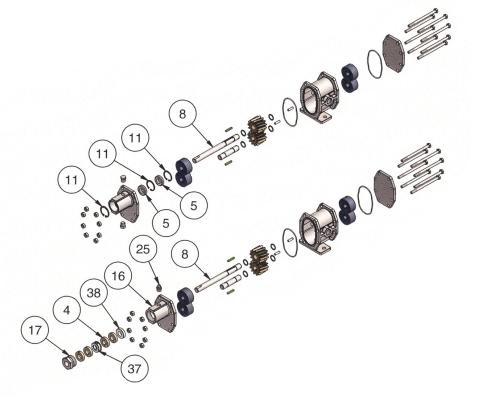
SUCTION LIFT

This pump has a suction lift capability of 20 feet for a new pump. Though gear pumps are self-priming, a foot valve is recommended. If possible, wet gears with the liquid to be pumped for the first dry start. Liquid retained in the system and gear chambers serves to wet the pump on subsequent starts.

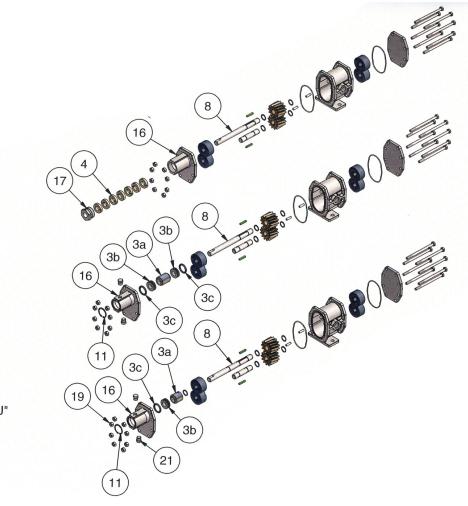
EXPLODED VIEW AND PARTS LIST







Shaft Seal Codes "R", "S" & "T" Packing with Lantern Ring



Shaft Seal Codes "N", "P" & "Q" Packing

Shaft Seal Codes "H" & "G" Double Mechanical Seals

Shaft Seal Codes "A", "B", "C", "D", "F" & "J" Single Mechanical Seals

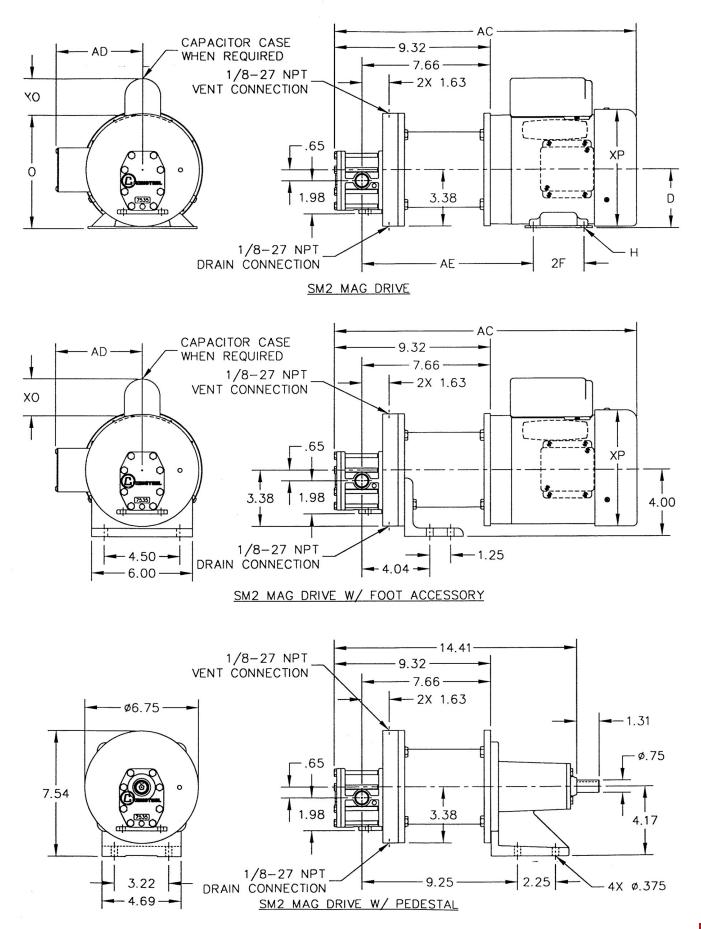
CHEMkit Parts

No	Dart No.	Bart Name	D	na l																			
No.	Part No.	Part Name	Re	q.	1	GEAR CODE																	
						1	2	3	4	5			8		А	В	с	E	F				
6	8994-01A	Drive Gear-Ryton PPS	1					-		-	-			-		_	-	_			I		
6	9685-01A 9395-01A	Drive Gear-316 SS Drive Gear-PEEK							-	-			-		_						I		
6	8886-01A	Drive Gear-Alloy C	1	1																			
6	7594-01A 8887-01A	Drive Gear-W 88 Drive Gear-Teflon	1							-								_			I		
7	8994-02A	Idle Gear- Ryton PPS		1						-	<u> </u>										I		
7	9685-02A 9395-02A	Idle Gear-316 SS Idle Gear-PEEK	1																		I		
7	9395-02A 8886-02A	Idle Gear-PEEK Idle Gear-Alloy C									-								-		I		
7	7594-02A	Idle Gear-W 88	1																		I		
7	8887-02A	Idle Gear-Tefion	1																		I		
					BEARING	1															I		
					CODE																I		
2	7521TC-A	Bearing, Carbon Graphite	4	1	C F J	1															I		
2	8995TC-A	Bearing, Teflon	4			1															I		
23	8693TC-A 5024-01	Bearing, Rulon 5th Bearing, Carbon Graphite	4																		I		
23	2063	5th Bearing , Rulon	1	1																	I		
1																							
						A	в	6	D	F	G	5			'S L	N	P	0	R	S		MAG C	CODE's
1	9355-037	O-Ring, Body -Teflon Encapsulating Silicone	2	2		Ê		- U		<u> </u>				-	-			<u>u</u>	K	-	<u> </u>		
3	32335 32536	Single Mech. Stainless Wedge Carb/Ceramic/TFE/Kalrez	1																				
3	32536 33069	Single Mech. Alloy C Wedge Carb/Ceramic/TFE/Kalrez Single Mech. Stainless Wedge Carb/SilCarb/TFE/Kalrez	1										-							\vdash			
3	33070	Single Mech. Alloy C Wedge Carb/SilCarb/TFE/Kalrez	1																				
3	32772 33079	Single Mechanical Bellows Carb/Ceramic/Viton/Viton Single Mechanical Bellows SilCarb/Silcarb/EPDM/EPDM	1							-										\vdash	-		
3	33076	Double Mechanical Wedge Carb/SilCarb/TFE/Kalrez																					
3	33079 33107	Double Mechanical Bellows Carb/Ceramic/Viton/Viton Single Mechanical Bellows SilCarb/Silcarb/Viton/Viton	1																				
4	7558	Packing Ring, Teflon with Graphite		or 4						<u> </u>						7			4		-		
4	8523	Packing Ring, Grafoil	60	r 4													6		-	4	_		
4 5	2496 2749	Packing Ring, Teflon Lip Seal	10	or 4 2		<u> </u>				-	<u> </u>							-			4		
8	3081	Drive Shaft - Single Mechanical Seals (Stainless)	1																				
8	3082 3083	Drive Shaft - Single Mechanical Seals (Alloy C) Drive Shaft (Stainless)	1																		_		
8	3084	Drive Shaft (Alloy C)	1																				
8	3087 3088	Drive Shaft - Mag (Stainless) Drive Shaft - Mag (Alloy C)	1							-											-		
9	3085	Idle Shaft (Stainless)	1																				
9 10	3086 5373	Idle Shaft (Alloy C) Clip, Retaining (Stainless)	4,5,			5	5	5	5	5	4	4	5	5	A	4	4	4	4	4	4	6	6
10	2065	Clip, Retaining (Alloy C)	4,5,	or 6		5	5	5	5	5	4	4	5	5	4	4	4	4	4	4	4	6	6
11 39	7639 2473	Retaining Ring Key	10	r 3		1	1	1	1	1	1	1	1	1	3						-		
14	7776	Key (Stainless)	2	2																			
14	8534	Key (Alloy C)	2	2																			
Other	Dente																						
Other	Parts																						
								_						CODE								MAG C	
14	7532S-3	Body with 1/2" NPT Ports (Stainless)	1 1			A	В	С	D	F	G	н	J	Z	L	N	Р	Q	R	S	т	м	w
14	7532H-3	Body with 1/2" NPT Ports (Alloy C)	1	1																			
15 15	7535S-1 7535H-1	Rear Cover (Stainless)	1																				
16	7534S-3	Rear Cover (Alloy C) Front Cover, Single/ Double Mechanical (Stainless)	1																				
16 16	7534H-3 8906S-5	Front Cover, Single/ Double Mechanical (Alloy C) Front Cover, Lip (Stainless)	1																		-		
16	8906S-1	Front Cover, Packing (Stainless)	1																				
16	8906H-1 8906S-3	Front Cover, Packing (Alloy C)	1							-													
16 16	8906H-3	Front Cover, Lantern Packing (Stainless) Front Cover, Lantern Packing (Alloy C)	1																				
17	7552	Pack Nut (Stainless)																					
17 18	8905 9365-090	Pack Nut (Alloy C) Hex Head Cap Screws	1																				
18	9365-076	Hex Head Cap Screws (Mag)	8	3																			
19 40	9367 9793	Hex Nuts Dowel Pin	8																				
21	6600-01	Hey Head Pine Plug (Stainless)	2	2																			
21	6600-02	(Hex Head Pipe Piug (Alloy C)	2																				
25 38	5390-01 2696	Grease Lubrication Fitting Starter Ring																					
37	2672	Lantern Ring	1																				
22 22	2919-01 2919-02	Allen Head Pipe Plug (Stainless) Allen Head Pipe Plug (Alloy C)	2				-			-	-			\square						+	_		
20	2489S-2	Pump Adapter (Stainless)	1	1																			
20 26	2489H-2 2099-B	Pump Adapter (Alloy C) Bell Housing	1	1																			
27	9355-038	O-Ring, Containment Can -Teflon Encapsulating Silicone																					
28 29	2479-016 2484-020	Socket Head Cap Screws (Can Flange) Hex Head Cap Screws (Bell/Pump Adapter)	6																				
30 a b c d	2023-8NS	Magnet Kit, Neo (Stainless)	4																				
30 a b c d	2023-8NH	Magnet Kit, Neo (Alloy C)	1	1																			

22	2919-02	Allen Head Pipe Plug (Alloy C)	2			
20	2489S-2	Pump Adapter (Stainless)	1			Г
20	2489H-2	Pump Adapter (Alloy C)	1			
26	2099-B	Bell Housing	1			Г
27	9355-038	O-Ring, Containment Can -Teflon Encapsulating Silicone	1			
28	2479-016	Socket Head Cap Screws (Can Flange)	6			Г
29	2484-020	Hex Head Cap Screws (Bell/Pump Adapter)	4			
30 a b c d	2023-8NS	Magnet Kit, Neo (Stainless)	1			
30 a b c d	2023-8NH	Magnet Kit, Neo (Alloy C)	1			
30a b c d	2023-8SS	Magnet Kit, Sam C (Stainless)	1			
30a b c d	2023-8SH	Magnet Kit, Sam C (Alloy C)	1			
36	2919H-015	0.015" Orifice Plug	1			
31,32,33,34,35	catalog	Mag - Power End Kit (motor hub, ada	pters, hardwa	are)	1	
	2464	Optional Mag Foot Kit (not	shown)		1	
	catalog	Sealed - Close Coupled Adapter Kit (not shown- faceplate	motor adapt	er, couplings, hardware)	1	
	catalog	Sealed- Long Mount Bedplate Kits (not shown - base, shims	, couplings, o	coupling guard, hardware)	1	
	catalog	Motors (not shown)			1	
	catalog	Pressure Relief Valve (not	shown)		1	

Series	Model	Repair Kit
SM207 M	SM20735JW-M81	SM20735JW-M81K
	SM20733JW-M1	SM20733JW-M1K
	SM2071FJW	SM2071FJWK
	SM2071FCW-M1	SM2071FCW-M1K
	SM2071ECW-M1	SM2071ECW-M1K
	SM2071BCW-X1	SM2071BCW-X1K
	SM2071BCW-M1	SM2071BCW-M1K
	SM20717CW-M3	SM20717CW-M3K
	SM20717CW	SM20717CWK
	SM20716CW-N47	SM20716CW-N47K
	SM20716CWM1-M47	SM20716CWM1-M47K
	SM20716CW-M1	SM20716CW-M1K
	SM20716CW-C1	SM20716CW-C1K
	SM20716CW	SM20716CWK
	SM20716BCW-M1	SM20716BCW-M1K
	SM20715PW-M1	SM20715PW-M1K
	SM20715PW	SM20715PWK
	SM20713CW-M1	SM20713CW-M1K
	SM20713CW	SM20713CWK
	SM20712JW-M1	SM20712JW-M1K

DIMENSIONS



MODEL CHART

MODEL	SM207
Maximum Flow (gpm) @1750 RPM	4
Theoretical Displacement (cc/revolution)	11.2
Maximum Differential Pressure (psig)	110
Maximum System Pressure (psig)	300
Maximum Speed (RPM)	1800
Maximum Fluid Temperature	450° F
Minimum Fluid Temperature	-50° F
NPSHR @ 1750 (feet)	4
Standard Port Size	1/2 inch FNPT
weight-less motor (lbs)	28

MAINTENANCE

A three-part housing provides easy disassembly and service. Full size bearings match the gear diameter, and eliminate the need for separate wear plates. TFE encapsulating silicone o-ring pump housing seals provide elastic memory to assure an effective long lasting seal and thus avoiding the re-torqueing required of pumps using pure TFE. To order a CHEMKIT[™] parts kit, simply add a "K" to the end of the model number.

A repair kit contains the following parts: bearings, gears, o-rings, shafts, keys, c clips, and retaining ring.

LIFE CYCLE/COST OF OWNERSHIP

Pump design and materials selection, together provide the longest life available from a gear pump. Key attributes include:

- Gear & bearing combinations of metallic and nonmetallic wear surfaces.
- Slotted bearings to lubricate shaft and gearsurfaces.
- Hydraulic porting to balance axial thrust and to reduce wear.
- Ample port sizing to reduce the likelihood of cavitation when inlet pressure is marginal.
- Effective housing seals with elastic memory prevent leakage of corrosives.
- Recirculation heat port versatility.
- Containment can flush & drain connections.

FIT

Connections are 1/2" female NPT or BSPT, pump hardware is metric and close couple adapters mount to both NEMA and IEC standard motor frame sizes for worldwide acceptance. The port size is the same as competitive pumps.