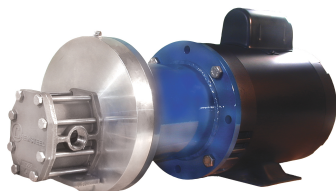


CHEMSTEEL™ PUMP

CHEMSTEEL PUMPS SERIES SM214 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:

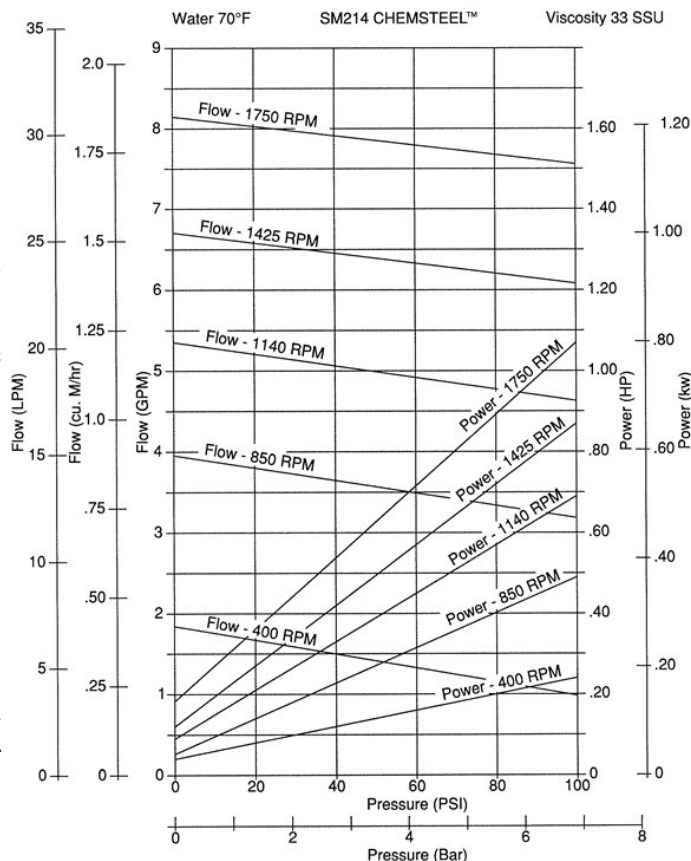
- Stainless or Alloy C housing construction.
- Gears available in metallic 316 stainless, W88 stainless and Alloy C. Also in Polytetrafluoroethylene, polyphenylenesulfide and polyetheretherketone.
- Shafts are 316 stainless steel or Alloy C.
- Bearings available in Carbon and Polytetrafluoroethylene.

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 non-lubricating 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

Chemsteel™ S(M)207, S(M)210 & S(M)214 Metallic

Shaft Seal Code "L"
Two Lip Seals

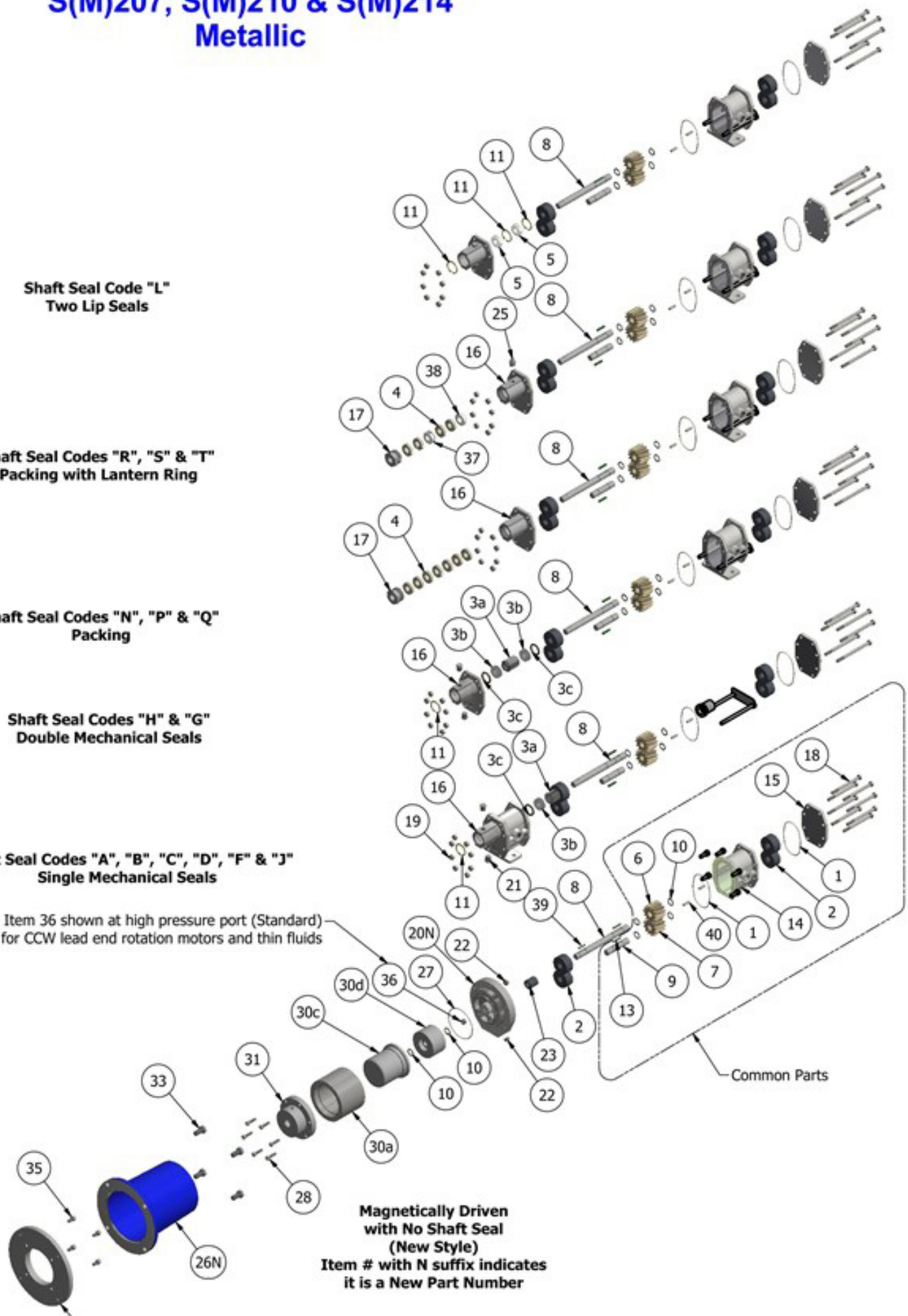
Shaft Seal Codes "R", "S" & "T"
Packing with Lantern Ring

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

Item 36 shown at high pressure port (Standard)
for CCW lead end rotation motors and thin fluids



Magnetically Driven
with No Shaft Seal
(New Style)
Item # with N suffix indicates
it is a New Part Number

SERIES S214 / SM214 NON-METALLIC PUMPS

Revised 03/29/04

CHEMkit Parts

No.	Part No.	Part Name	Req.	GEAR CODE																		
				1	2	3	4	5	6	7	8	9	A	B	C	E	F					
6	2324-01A	Drive Gear-Ryton PPS	1																			
6	2321-01A	Drive Gear-316 SS	1																			
6	2326-01A	Drive Gear-PEEK	1																			
6	2322-01A	Drive Gear-Alloy C	1																			
6	2323-01A	Drive Gear-W 88	1																			
6	2325-01A	Drive Gear-Teflon	1																			
7	2324-02A	Idle Gear- Ryton PPS	1																			
7	2321-02A	Idle Gear-316 SS	1																			
7	2326-02A	Idle Gear-PEEK	1																			
7	2322-02A	Idle Gear-Alloy C	1																			
7	2323-02A	Idle Gear-W 88	1																			
7	2325-02A	Idle Gear-Teflon	1																			
				BEARING CODE																		
				C	P	J																
2	9867TC-A	Bearing, Carbon Graphite	4																			
2	9350TC-A	Bearing, Teflon	4																			
2	2210TC-A	Bearing, Ryton	4																			
23	5024-01	5th Bearing, Carbon Graphite	1																			
23	2063	5th Bearing, Ryton	1																			
				SEAL CODE's																MAG CODE's		
				A	B	C	D	F	G	H	J	Z	L	N	P	Q	R	S	T	K	Y	
1	9355-143	O-Ring, Body -Teflon Encapsulating Silicone	2																			
3	32335	Single Mech. Stainless Wedge Carb/Ceramic/TFE/Kalrez	1																			
3	32536	Single Mech. Alloy C Wedge Carb/Ceramic/TFE/Kalrez	1																			
3	33069	Single Mech. Stainless Wedge Carb/SilCarb/TFE/Kalrez	1																			
3	33070	Single Mech. Alloy C Wedge Carb/SilCarb/TFE/Kalrez	1																			
3	32772	Single Mechanical Bellows Carb/Ceramic/Viton/Viton	1																			
3	33079	Single Mechanical Bellows SilCarb/Silcarb/EPDM/EPDM	1																			
3	33076	Double Mechanical Wedge Carb/SilCarb/TFE/Kalrez	1																			
3	33079	Double Mechanical Bellows Carb/Ceramic/Viton/Viton	1																			
3	33107	Single Mechanical Bellows SilCarb/Silcarb/Viton/Viton	1																			
4	7558	Packing Ring, Teflon with Graphite	7 or 4																			
4	8523	Packing Ring, Grafoil	6 or 4																			
4	2496	Packing Ring, Teflon	7 or 4																			
5	7580	Lip Seal	2																			
8	3001	Drive Shaft - Single Mechanical Seals (Stainless)	1																			
8	3002	Drive Shaft - Single Mechanical Seals (Alloy C)	1																			
8	3003	Drive Shaft (Stainless)	1																			
8	3004	Drive Shaft (Alloy C)	1																			
8	3008	Drive Shaft - Mag (Alloy C)	1																			
9	3005	Idle Shaft (Stainless)	1																			
9	3006	Idle Shaft (Alloy C)	1																			
10	5373	Clip, Retaining (Stainless)	4.5, or 6																			
10	2065	Clip, Retaining (Alloy C)	4.5, or 6																			
11	7639	Retaining Ring	1 or 3																			
39	2473	Key	1																			
14	9364	Key (Stainless)	2																			
14	3011	Key (Alloy C)	2																			

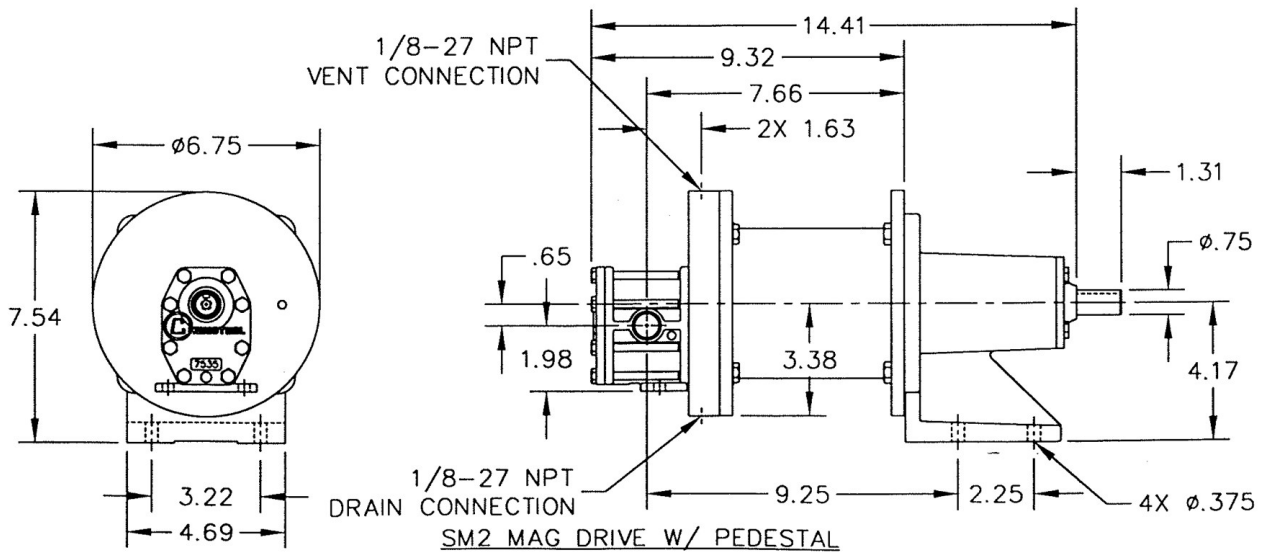
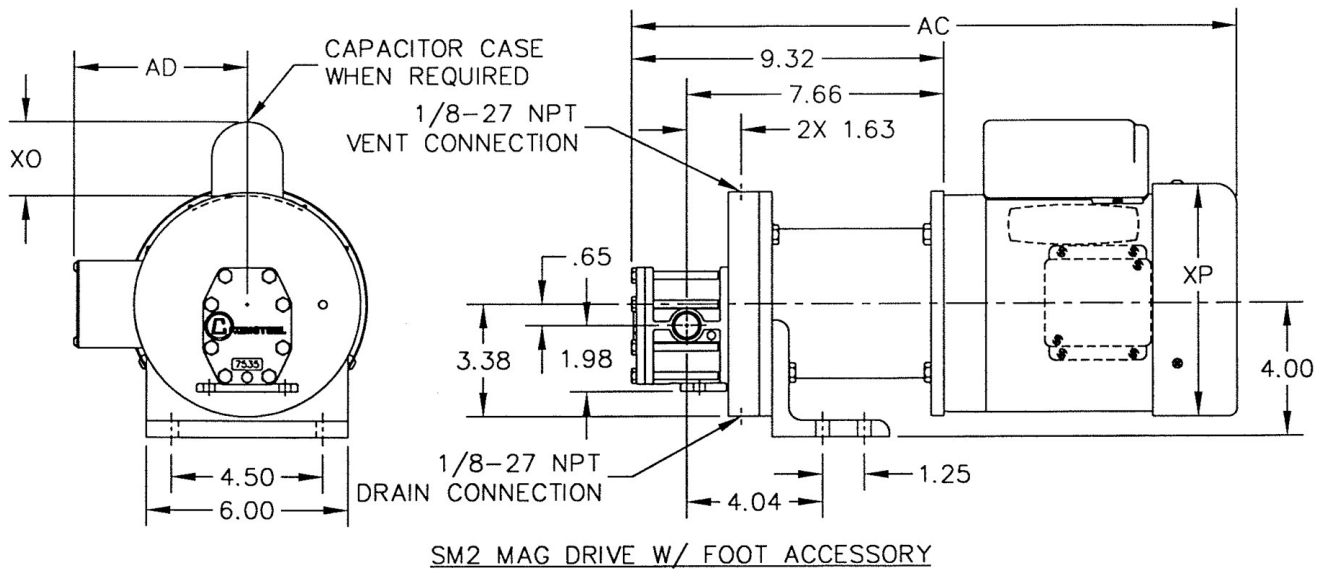
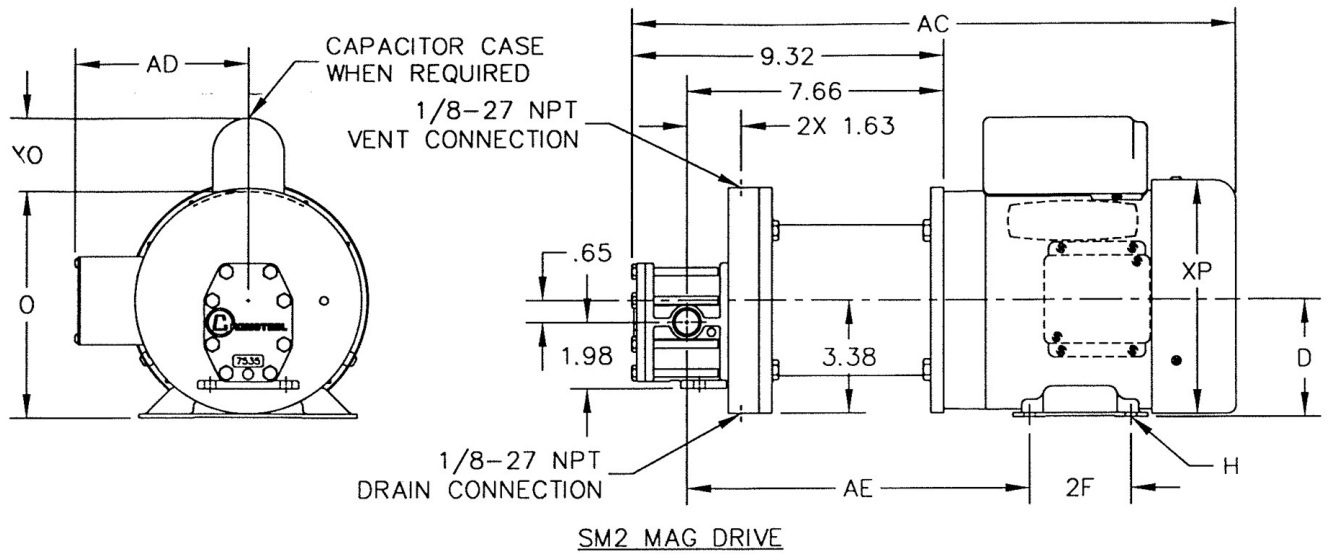
Other Parts

				SEAL CODE's																MAG CODE's	
				A	B	C	D	F	G	H	J	Z	L	N	P	Q	R	S	T	K	Y
14	8075W-3	Body with 1/2" NPT Ports	1																		
15	2947W-1	Rear Cover	1																		
16	2945W-1	Front Cover, Single/ Double Mechanical	1																		
16	2944W-1	Front Cover, Lip	1																		
16	2943W-1	Front Cover, Packing	1																		
16	2943W-3	Front Cover, Lantern Packing	1																		
17	2674	Pack Nut	1																		
18	2666-040	Hex Head Cap Screws	8 or 4																		
18	2666-020	Hex Head Cap Screws (Mag)	4																		
19	9367	Hex Nuts	8 or 4																		
41	2059	Flat Washer	8 or 4																		
40	9386 (9864)	Dowel Sleeve Pedestal (Dowel Sleeve Close Coupled)	2																		
40	2058	Dowel Seeve (Mag)	2																		
21	6600-01	Hex Head Pipe Plug (Stainless)	2																		
21	6600-02	Hex Head Pipe Plug (Alloy C)	2																		
25	5390-01	Grease Lubrication Fitting	1																		
38	2696	Starter Ring	1																		
37	2672	Lantern Ring	1																		
22	6600-03	Hex Head Pipe Plug (Teflon)	2																		
20	2253-2	Pump Adapter	1																		
20	2253-2P	Pump Adapter	1																		
26	2099-B	Bell Housing	1																		
27	9355-038	O-Ring, Containment Can -Teflon Encapsulating Silicone	1																		
28	2479-016	Socket Head Cap Screws (Can Flange)	6																		
29	2484-020	Hex Head Cap Screws (Bell/Pump Adapter)	4																		
30 a b d	2023-8NHR	Magnet Kit, Neo (Alloy C)	1																		
30 c	2251	Non Metallic Containment Can	1																		
30 c	2251H	Metallic Containment Can (Alloy C)	1																		
36	2919H-015	0.015" Orifice Plug	1																		

31,32,33,34,35	catalog	Mag - Power End Kit (motor hub, adapters, hardware)
	2464	Optional Mag. Foot Kit (not shown)
	catalog	Sealed - Close Coupled Adapter Kit (not shown- faceplate, motor adapter, couplings, hardware)
	catalog	Sealed- Long Mount Bedplate Kits (not shown - base, shims, couplings, coupling guard, hardware)
	catalog	Motors (not shown)
	catalog	Pressure Relief Valve (not shown)

Series	Model	Repair Kit
SM214 M	SM2141FCW-M2	SM2141FCW-M2K
	SM2141FCW-M1	SM2141FCW-M1K
	SM21416PW-M2	SM21416PW-M2K
	SM21416PW-M1	SM21416PW-M1K
	SM21416JW-M2	SM21416JW-M2K
	SM21416JW	SM21416JWK
	SM21416CW-M2	SM21416CW-M2K
	SM21416CWM1-T97	SM21416CWM1-T97K
	SM21416CW	SM21416CWK
	SM21415PW-M1	SM21415PW-M1K
	SM21415PW	SM21415PWK
	SM21412CW-M2	SM21412CW-M2K

DIMENSIONS



MODEL CHART

MODEL	SM214
Maximum Flow (gpm) @1750 RPM	8
Theoretical Displacement (cc/revolution)	22.2
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)	6
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-torquing 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 gear surfaces.
- 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 world wide acceptance. The port size is the same as competitive pumps.