



**OBERDORFER**

by Gardner Denver

STAINLESS STEEL, HASTELLOY C & PLASTIC GEAR PUMPS  
FOR DEMANDING APPLICATIONS

**Chemsteel®**



# Keeping Industries Flowing Since 1890

Oberdorfer™ Pumps has been propelling the pumping industry forward since we manufactured our first pump in 1890. Oberdorfer is based in Syracuse, New York.

We manufacture stainless steel, Hastelloy C, and plastic gear pumps for demanding applications.

Our Chemsteel pumps are used in the following industries and applications, among others:

- Chemical Processing
  - Acid and caustic pumping and metering
  - Pumping adhesives and coatings
- General Industrial
  - Acids and caustics for pickling and finishing
  - Chemical mixing and blending
- Oil & Gas
  - Blending and metering for chemicals in fracking trailers
- Food & Beverage
  - Brine Injection
  - Raw material handling
  - Clean-in-place systems dispensing cleansing chemicals

## Chemsteel Series Overview

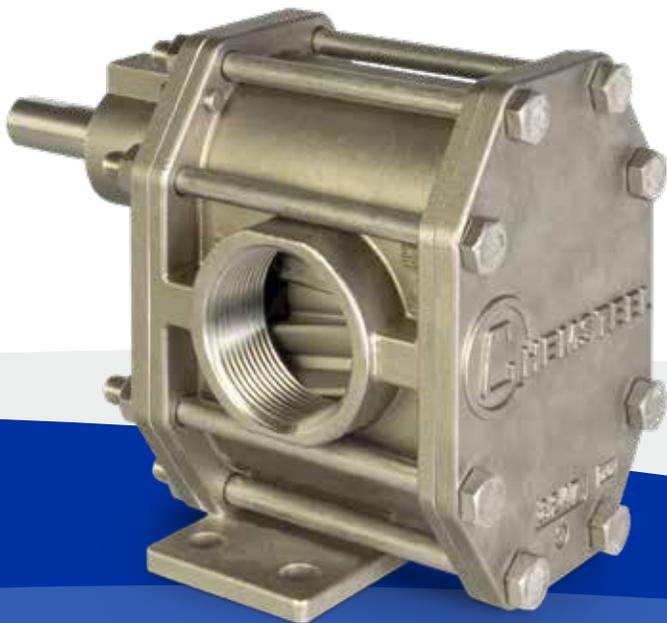
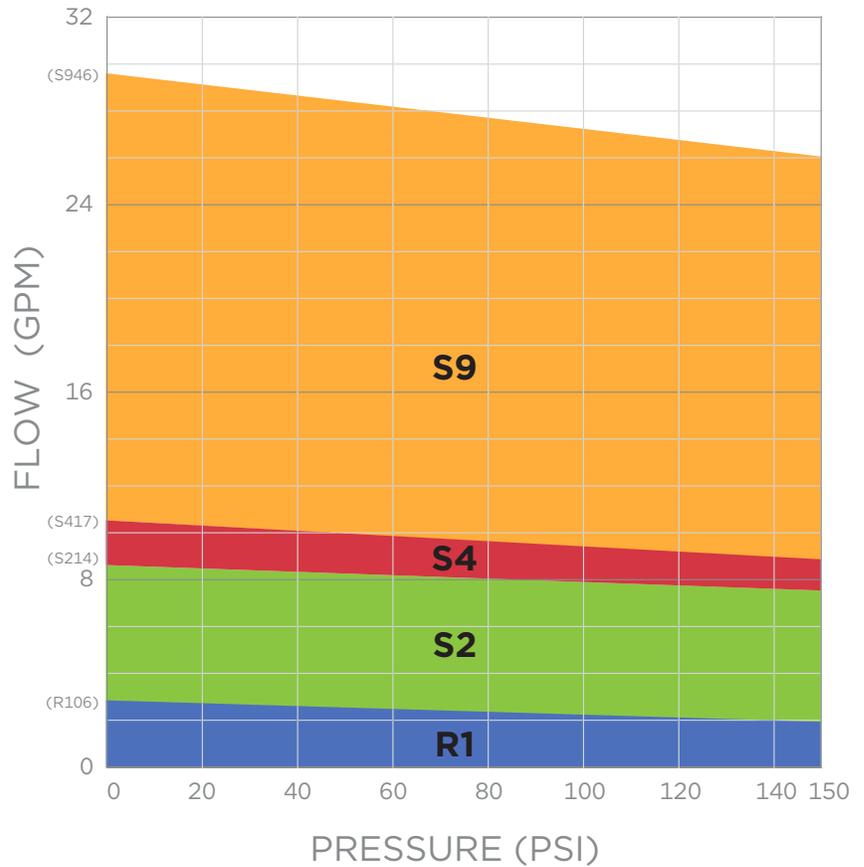
FAMILY	MAX FLOW (GPM)	BODY MATERIALS	SEAL TYPES	GEAR OPTIONS
R1	3	Stainless Steel, Hastelloy C	Mechanical, double lip, packing	Stainless Steel, Hastelloy C, PPS, PEEK, W88, PTFE
S2	8	Stainless Steel, Hastelloy C, PPS	Mechanical, double lip, packing	Stainless Steel, Hastelloy C, PPS, PEEK, W88, PTFE
S4	10	Stainless Steel, Hastelloy C, PPS	Mechanical, double lip, packing	Stainless Steel, Hastelloy C, PPS, PEEK, W88, PTFE
S9	30	Stainless Steel, Hastelloy C, PPS	Mechanical, double lip, packing	Stainless Steel, Hastelloy C, PPS, PEEK, W88, PTFE
RM1	3	Stainless Steel, Hastelloy C	Mag drive	Stainless Steel, Hastelloy C, PPS, PEEK, W88, PTFE
SM2	8	Stainless Steel, Hastelloy C, PPS	Mag drive	Stainless Steel, Hastelloy C, PPS, PEEK, W88, PTFE
SM4	10	Stainless Steel, Hastelloy C, PPS	Mag drive	Stainless Steel, Hastelloy C, PPS, PEEK, W88, PTFE
SM9	30	Stainless Steel, Hastelloy C, PPS	Mag drive	Stainless Steel, Hastelloy C, PPS, PEEK, W88, PTFE

BETTER *Delivery* BETTER *Service* BETTER *Quality* BETTER *Selection*

# Chemsteel Features

- Rugged, reliable pumps to meet your most demanding applications
- Wide range of gear and bearing materials to fit your application
- Flows from 0.5 to 30 GPM at 1750 RPM
- Pressures from 0 to 150 PSI
- Slotted bearings to lubricate shaft and gear surfaces
- Effective housing seals with elastic memory prevent leakage of corrosives

CHEMSTEEL HYDRAULIC RANGE @ 1750 RPM



# Why Professionals Choose Oberdorfer Chemsteel Series Pumps

## Optional Bearing Flush Ports

- To extend bearing life when pumping non-lubricating fluids or fluids with a small degree of fine solids

## Extended Life

- Gear & bearing combinations of metallic and non-metallic wear surfaces
- Slotted bearings to lubricate shaft and gear surfaces
- Hydraulic porting to balance axial thrust

## Bi-Directional Operation

- For applications requiring reversing flow

## Combined Bearing & Wearplate

- Full size bearings match the gear diameter and eliminate the need for separate wear plates
- Gear trimming for desired flow rates
- Made of carbon-graphite, PTFE or Rulon®

## Helical Gears

- Noise reduction up to 10 db

## Interfacing to World Standards

- NPT & BSPT porting
- Metric pump hardware
- Close-coupled adapters for NEMA and IEC standard motor frame sizes

## Metallic & Non-Metallic

- Wide range of capability
- Effective weight and cost selection

## Seal Housings

- Ported for flush, drain, barrier fluid and lantern packing lubrication
- Access to seals without removal of cover

## Body/Cover Static O-Rings

- PTFE encapsulating silicone for sealing with a memory

## Upper Drive Standard

- Lends itself to in-line pump seal maintenance without leakage of trapped chemicals
- Easily converted to a lower drive configuration

## Dynamic Seal Options

- Single or double mechanical wedge & bellows styles
- Standard compression packing
- Lantern Ring compression packing
- Lip seals

## Mag Drive Pumps

Chemsteel Magnetic Gear Pumps are engineered to safely handle hazardous, toxic, highly corrosive or explosive chemicals.

- Stainless Steel
- Alloy C
- PPS



# Construction

## Body

- 316 Stainless Steel—an all purpose austenitic stainless, excellent corrosion resistance; premium choice of all 300 series alloys.
- Alloy C—Superior corrosion resistance for severe alkaline and acidic pumping applications
- PPS, Polyphenylene Sulfide PPS—an engineered, reinforced plastic, offering a wide range of chemical compatibility, physical stability, and high temperature resistance.



## Gears

Precision machined metallic gears of 316SS, W88 stainless, and Alloy C. Also available in PTFE, PPS and carbon reinforced PEEK.

## Shafts

Shafts are 316 stainless steel or Alloy C.



## Bearings

Full gear diameter carbon sleeve bearings for maximum chemical resistance and high load capacity. PTFE or Rulon® plastic bearings available for product purity.

## Seals

Single and/or double mechanical seals are offered in elastomer bellows and PTFE wedge designs. Bellows design available with Viton® or EPDM formed elastomer shaft seal. Wedge designs available with PTFE wedge shaft seal and perfluoroelastomer stationary seat o-rings. Packing materials: PTFE, Grafoil® and PTFE/Graphite.



## Body/Cover O-Rings

PTFE encapsulating, silicone o-rings provide elastic memory to assure an effective long lasting seal avoiding the re-torquing required of pumps using pure TFE.



## Close-Coupled Mag Drive Pumps

- Body 316 SS, PPS and Alloy C constructions
- Gears PPS, Peek, 316 SS, W88, Alloy C and PTFE
- Shafts 316 SS or Alloy C
- Bearings Carbon, PTFE and Rulon®
- Samarium cobalt magnets
- Close-Coupled Adapters for NEMA and IEC standard motor frame sizes
- 316 Stainless Steel, and Alloy C containment cans
- 1/2 to 30 GPM

# Chemsteel Pumps Numbering System

## 1. BASIC PUMP SERIES

SEAL-LESS MAG-DRIVE			SEALED		FLOW RATE CODE	MAX FLOW (0 PSI) GPM @ 1725 RPM	
CODE	METAL	PPS	CODE	PPS			
RM1	X		R1		02	.5	
	X					03	1.5
	X					04	2
	X					06	3
SM2		X		X	03	1.5	
		X		X	04	2	
		X		X	05	2.8	
	X	X	S2	X	07	4	
	X	X		X	10	5.6	
	X	X		X	14	8	
SM4	X		S4		17	10	
				X	17	10	
SM9	X		S9	X	23	15	
	X			X	30	20	
	X			X	35	23	
	X			X	46	30	

## 2. HOUSING & SHAFT MATERIAL

CODE	HOUSING MATERIAL	SHAFT MATERIAL
1	316 Stainless Steel	316 Stainless Steel
3	Alloy C	Alloy C
6	PPS	316 Stainless Steel
9	PPS	Alloy C

## 3. GEAR MATERIAL COMBINATION

CODE	DRIVE	IDLE
1	PPS	PPS
2	316 SS	PEEK*
3	PEEK*	PEEK*
4	Alloy C	Alloy C
5	Alloy C	PTFE
6	W88	W88
7	PTFE	PTFE
8	W88	PTFE
9	Alloy C	PEEK*
A	Alloy C	PPS
B	316 SS	PPS
C	W88	PPS
E	316 SS	316 SS
F	316 SS	PTFE
H	W88	PEEK*

Example:



## 4. BEARING MATERIAL

CODE	MATERIAL
C	Carbon Graphite Resin
P	PTFE
J	Rulon*

## 5. SHAFT SEAL

CODE	STYLE			ROTARY HEAD FACE	MATERIAL		
	DESIGN	SEALS	CASE		ELASTOMER	FACE	O-RING
B	Bellows	Single	316	Carbon	VITON*	Ceramic	VITON*
J	Bellows	Single	316	Silicon Carbide	EPDM	Silicon Carbide	EPDM
H	Bellows	Double	316	Carbon	VITON*	Ceramic	VITON*
Z	Bellows	Single	316	Silicon Carbide	VITON*	Silicon Carbide	VITON*
A	Wedge	Single	316	Carbon	PTFE	Ceramic	KALREZ*
C	Wedge	Single	316	Carbon	PTFE	Silicon Carbide	KALREZ*
D	Wedge	Single	Alloy C	Carbon	PTFE	Ceramic	KALREZ*
F	Wedge	Single	Alloy C	Carbon	PTFE	Silicon Carbide	KALREZ*
V	Wedge	Single	Alloy C	Silicon Carbide	PTFE	Silicon Carbide	KALREZ*
G	Wedge	Double	316	Carbon	PTFE	Silicon Carbide	KALREZ*
L	Two Lips Seals		304		VITON* backed by PTFE		
N	Packing				PTFE with Graphite		
P	Packing				GRAFOIL*		
Q	Packing				PTFE		
R	Packing with Lantern Ring				PTFE with Graphite		
S	Packing with Lantern Ring				GRAFOIL*		
T	Packing with Lantern Ring				PTFE		
W	MAG-COUPLED				Samarium Colbalt		

## 6. ADDITIONAL OPTIONS

CODE	OPTION
C1 through C7	Factory Installed Close Coupled Adapter
T1 through T13	Non-Metallic Gear - Temperature Trim
H	Tandem - High Flow
D	Tandem - Duplex
B	Bearing Flush Ports
E	BSPT Threads
L	Lower Shaft Drive
XX	Specials - Consult Factory
M1 - M7	Factory Installed Close Coupled Adapter - Mag-Coupled

The leader in every market we serve  
by continuously improving all business processes  
with a focus on innovation and velocity

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