



# GC Series Hydraulic Pumps



## G.C. Series Hydraulic Pumps

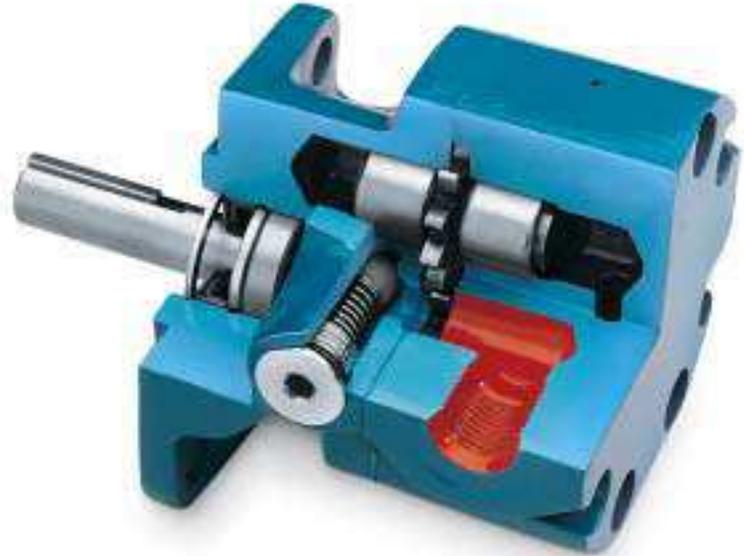
Haldex Hydraulics G.C. Series Hydraulic Pumps are compact, external gear models for use in pumping fluids with lubricating qualities. Suitable for use in a wide variety of material handling, agricultural, and construction equipment in addition to machine tools, robotics, and other types of machinery.

Designed to provide reliable, long-life service under rugged conditions, G.C. Series pumps are built with cast iron bodies and hardened steel gears. Among their other standard, extra-value features are:

- Speeds to 4000 RPM
- Pressures to 4000 PSI
- Superior volumetric efficiency
- Needle bearing construction
- High mechanical efficiency
- Temperature ratings to 250°F (120°C)\*
- Wide variety of options

\* Higher temperatures, consult factory.

See the chart on this page for basic sizes. Dimensional and option information is listed on pages 3-5 and performance curves are shown on pages 6 & 7. See page 8 for complete ordering information.

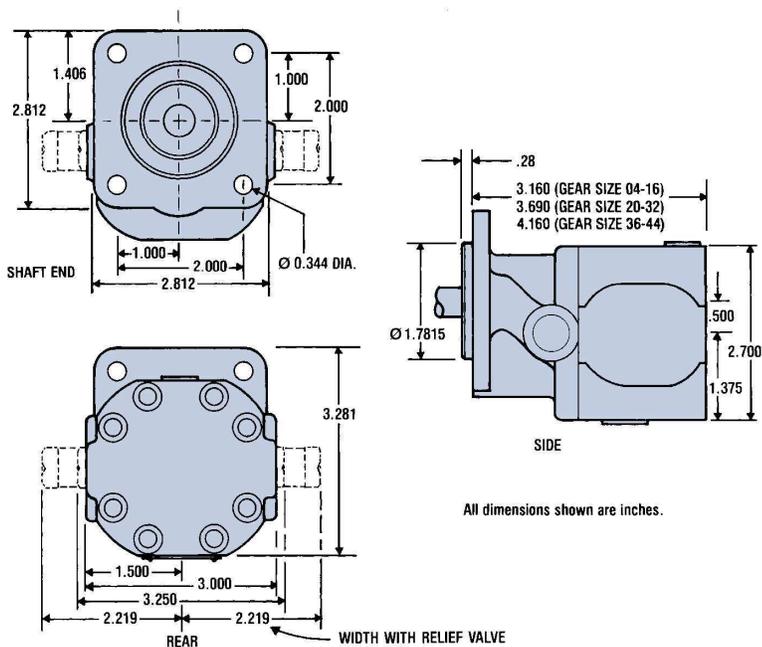


Order Code (Gear)	Displacement		Flow				Pressure Rating			
	Revolution		At 1800 RPM		At 3600 RPM		Continuous		Intermittent	
	cu. in.	cc.	GPM	L/Min.	GPM	L/Min.	PSI	BAR	PSI	BAR
04	0.065	1.07	0.50	1.93	1.00	3.86	3000	207	4000	275
06	0.097	1.59	0.75	2.86	1.50	5.72	3000	207	4000	275
08	0.129	2.11	1.00	3.80	2.00	7.60	3000	207	4000	275
▲10	0.161	2.64	1.25	4.75	2.50	9.50	3000	207	4000	275
12	0.194	3.18	1.50	5.72	3.00	11.44	3000	207	4000	275
▲14	0.226	3.70	1.75	6.66	3.50	13.32	2600	179	4000	275
16	0.258	4.23	2.00	7.61	4.00	15.22	2300	159	4000	275
▲18	0.291	4.77	2.25	8.59	4.50	17.18	2100	145	3500	241
20	0.323	5.29	2.50	9.52	5.00	19.04	1900	131	3000	207
24	0.388	6.36	3.00	11.45	6.00	22.90	1600	110	2500	172
28	0.453	7.42	3.50	13.36	7.00	26.72	1300	90	2250	155
32	0.517	8.47	4.00	15.25	8.00	30.50	1200	83	2000	138
†36	0.581	9.52	4.50	17.17	9.00	34.34	2250	155	2475	171
†40	0.647	10.59	5.00	19.07	10.0	38.15	2000	138	2200	152
†44	0.711	11.65	5.50	20.98	11.0	41.97	1800	124	2000	138

Flow listed in U.S. gallons. 200 SSU oil.

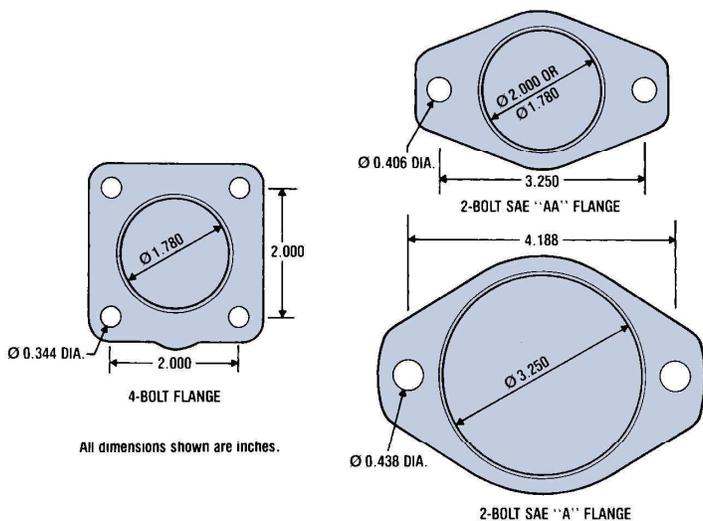
▲ Available, but not standard (100-piece minimum order).

† For speed above 2400 RPM, 1-in. dia. inlet tube must be used.



## DIMENSIONAL INFORMATION

Pumps use one of two basic castings: One size for gear faces 04 through 16 and a slightly larger size for gear faces 20 to 32. See the drawings for details.

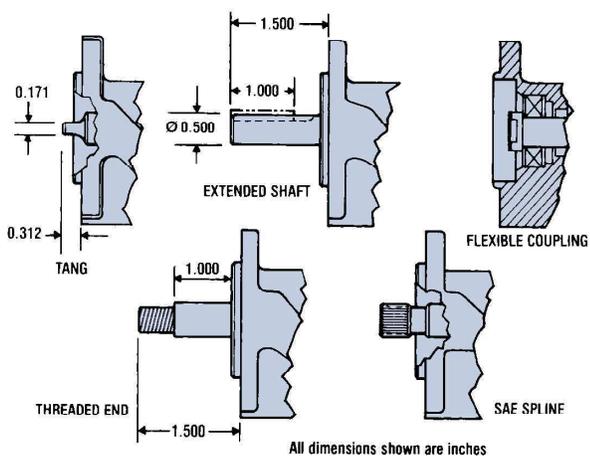


## FLANGE OPTIONS

Standard options include three basic flanges: 4-Bolt with 1.78-inch Pilot, 2-Bolt SAE "AA" with 2-inch or 1.78-inch Pilot, and 2-Bolt SAE "A" with 3.25-inch Pilot. Consult factory for other flange requirements.

Order Code	Mounting Flange Options
1	4-Bolt w/1.78" Pilot
2	2-Bolt SAE "AA" w/2.0" Pilot
▲ 3	2-Bolt SAE "AA" w/1.78" Pilot
4	2-Bolt SAE "A" w/3.25" Pilot

▲ 100-piece minimum order



## SHAFT OPTIONS

Five shaft options are standard: 0.171-inch Tang, 1/2-inch diameter x 1 1/2-inch Extension, Flexible Coupling, Threaded End, and SAE Spline. Consult factory for other shaft options.

Order Code	Mounting Flange Options
1	0.171" Tang
2	0.50" Diameter x 1.50" Extension, 1/8" Square Key
▲ 3	Flexible Coupling
▲ 4	Threaded End (Specify Thread)
* 5	SAE Spline (Specify)

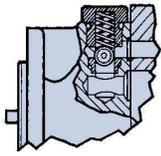
▲ 100-piece minimum order

\* 9T, 20/40 DP standard with flange option 1, 2 & 3;

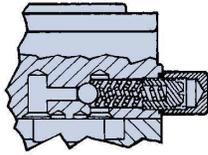
9T, 16/32 DP standard with flange option 4.

Selected sizes available from stock. Consult factory.

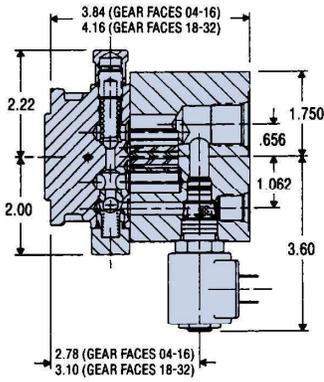
# OPTIONS



CHECK VALVE

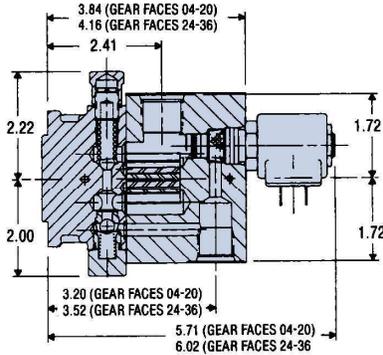


RELIEF VALVE



**SIDE MOUNTED SOLENOID**

Rear ports only. Not available in gear sizes greater than -28.



**REAR MOUNTED SOLENOID**

Side ports only. Not available in gear sizes greater than -36.

## VALVE OPTIONS

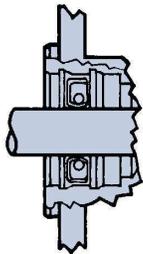
A variety of integral valves and valve combinations are available as standard. Options include: Relief, Check, and Check/Relief combination. A Check, Relief & Solenoid Release valve combination provides the lift-hold-lower function for power up and gravity down applications. Another unique option, for lift-hold-lower applications, incorporates an adjustable needle valve in the pump for controlling the lowering speed of the load.

Order Code	Valve Options
A	No Valves
B	Relief Valve
C	Direction Checks (Not Shown)
* D	Check Valve
* E	Check & Relief Valves (Not Shown)
* F	Check, Relief & Normally Closed Solenoid
* G	Check, Relief & Normally Open Solenoid
* H	Check, Relief & Solenoid Cavity Plugged

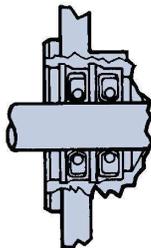
Pressure compensated flow control spools are available with options F and G.

\* Available ONLY for gear sizes 04 through 36

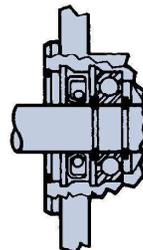
**Minimum full bypass relief valve settings:** 200 psi for gear sizes 04-16 at 1725 rpm, 300 psi for gear sizes 18-44 at 1725 rpm. At speeds above 1725 rpm, the minimum relief valve settings increase. Contact factory for specific information.



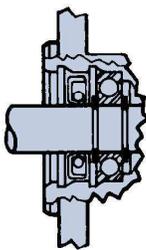
SINGLE LIP LOW PRESSURE SEAL



DOUBLE SEAL WITH OVERBOARD DRAIN



HIGH-PRESSURE SEAL WITH OUTBOARD BEARING FOR THRUST LOAD



SEAL WITH OUTBOARD BEARING FOR BELT OR GEAR DRIVE

## SEAL & BEARING OPTIONS

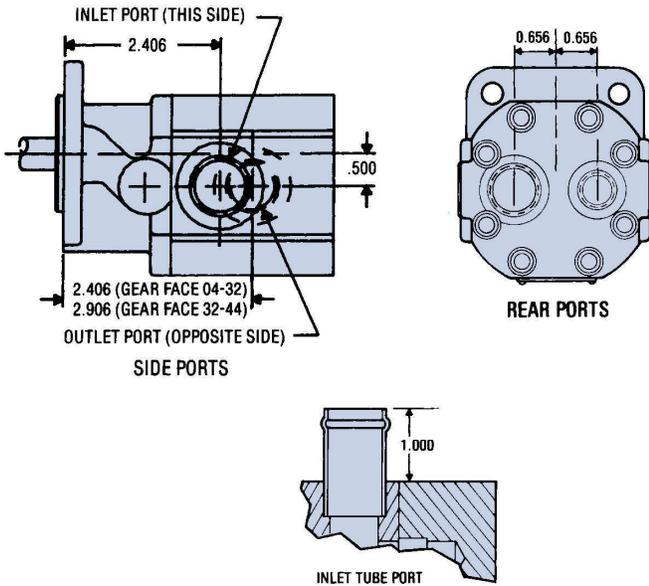
Five basic seal & bearing configurations are available as shown here. Oil seals are either Buna-N or Viton. Outboard ball bearings are available for "radial load" (bolt or gear drives and thrust loads). High-pressure seals are rated up to 25 PSI at 3000 RPM. Viton seals are rated at 350°F (176°C). Consult factory for other types of sealing materials and mechanical seals. Higher pressure seals available, consult factory.

Order Code	Seals & Bearings Options
1	Single Lip Buna-N Low Pressure Seal
2	Viton Seal
*3	Viton High-Pressure Seal w/Outboard Ball Bearing
▲*4	Double Seal w/Overboard Drain
*5	Buna-N Seal w/Outboard Ball Bearing

▲ 100-piece minimum order.

\* Not available with shaft option 3.

**Outboard ball bearing settings:**  
 Maximum overhang load: 150 lbs.  
 Maximum inward thrust: 75 lbs.  
 Maximum outward thrust: 50 lbs.



All dimensions shown are inches.

\* NOTE: Based on CCW rotation.

### PORT LOCATION OPTIONS

Standard porting is SAE Straight Thread O'Ring Ports. Depending on gear size, porting size varies as shown in the chart below. NPTF and Inlet Tube Ports are not standard but can be supplied. The second chart shows the Order Code for port type and location.

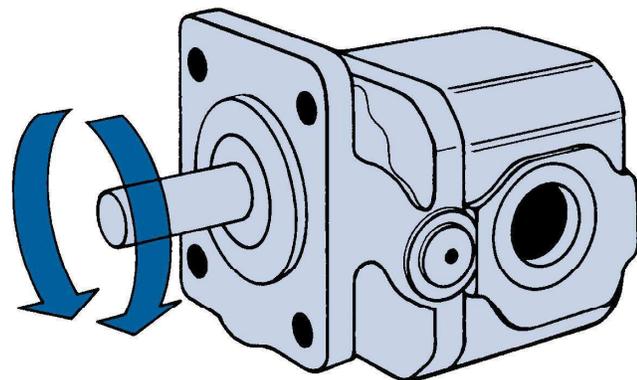
Gear Size	SAE Port Size	
	Unirotational (Birotational)	
Order Code	Low Pressure Port	High Pressure Port
04 & 06	9/16-18 (9/16-18)	9/16-18 (9/16-18)
08, 12 & 16	3/4-16 (3/4-16)	9/16-18 (3/4-16)
20, 24	7/8-14	3/4-16
28 & 32	(7/8-14)	(7/8-14)
36, 40 & 44	(7/8-14)	(7/8-14)

Order Code	Port Location Options
A	SAE Side Ports
▲ B	SAE Rear Ports
▲ C	NPTF Side Ports
▲ D	NPTF Rear Ports
▲* E	Inlet Tube, 1.0" w/SAE Side Outlet Port

NOTE: If ordering NPTF Ports, specify size (1/4, 3/8 or 1/2 in.)

▲ 100-piece minimum order.

\* For gear order codes 36, 40 and 44, 1 in. diameter Inlet Tube must be used for speeds above 2400 RPM.



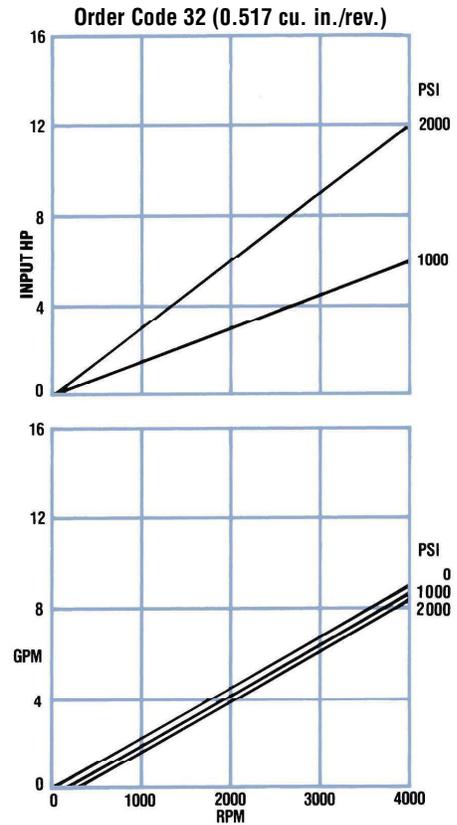
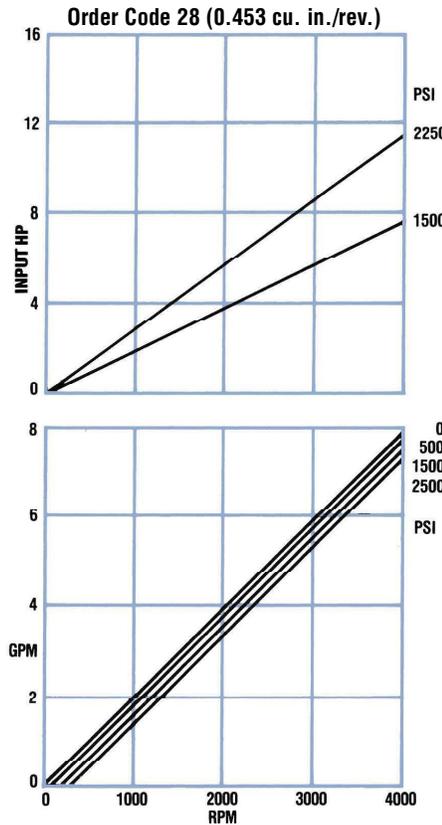
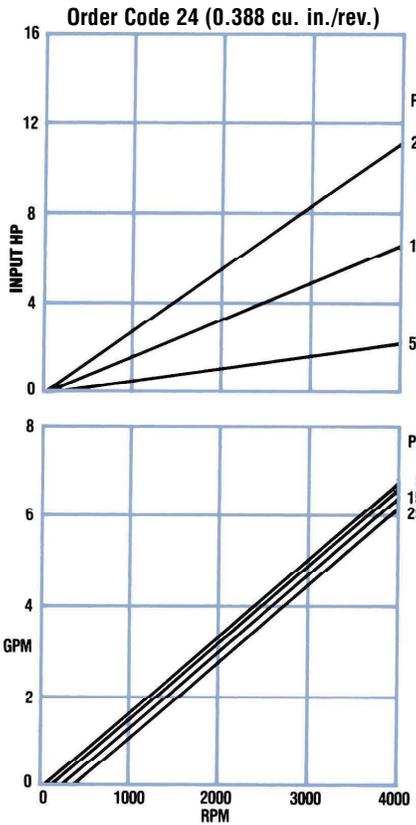
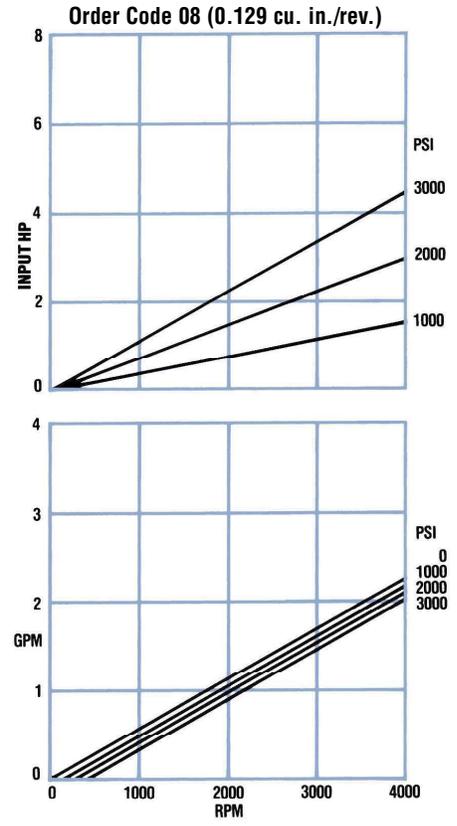
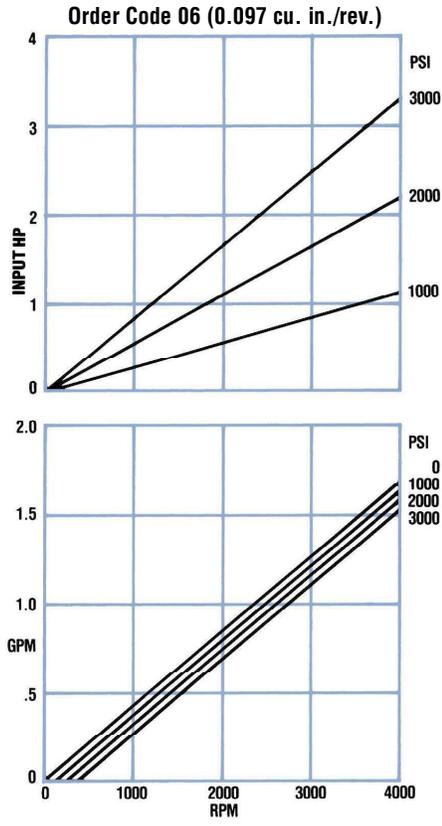
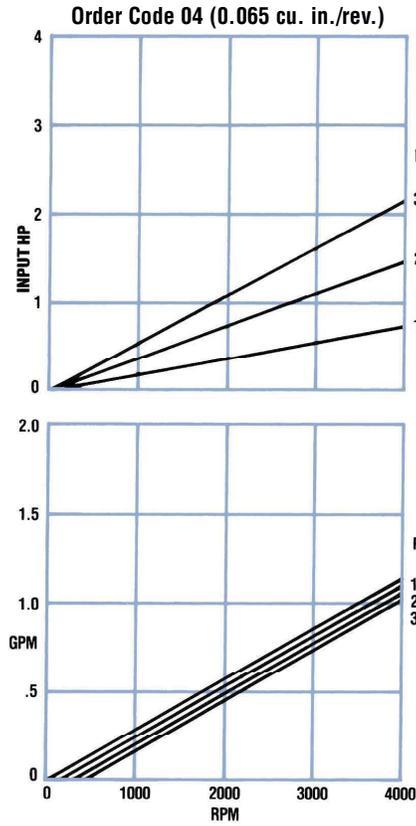
### ROTATION OPTIONS

Rotation options are Clockwise or Counterclockwise as viewed from the shaft end or Birotational. All Birotational pumps include directional check valves. For high-pressure applications, Birotational pumps are supplied with a steel-plugged overboard 7/16-20 SAE drain, an outboard ball bearing, and a high-pressure Viton oil seal.

Order Code	Rotation Options
1	Clockwise
2	Counterclockwise
* 3	Birotational

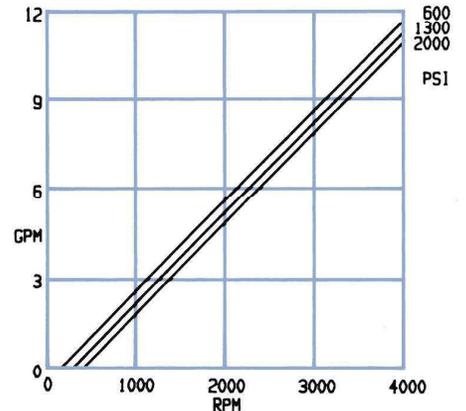
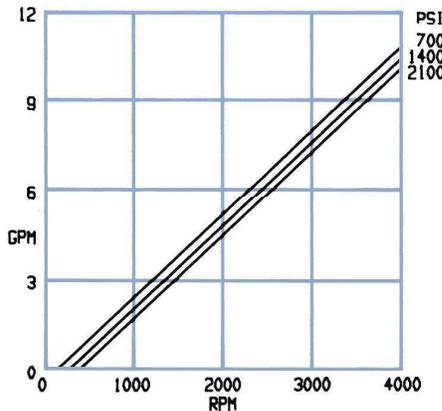
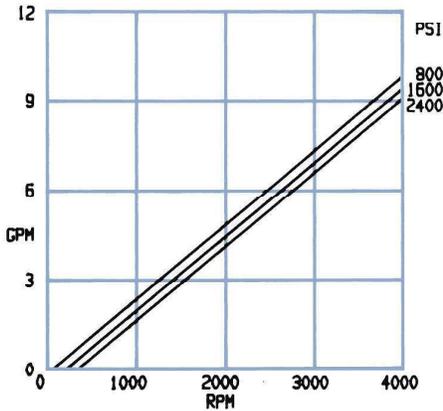
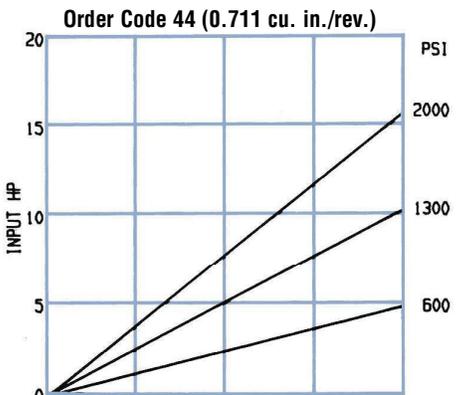
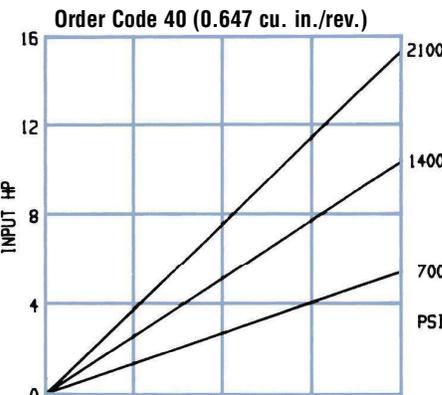
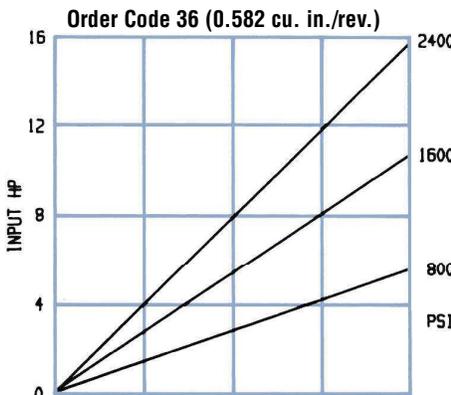
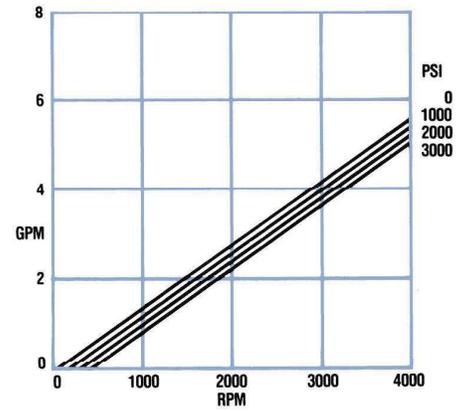
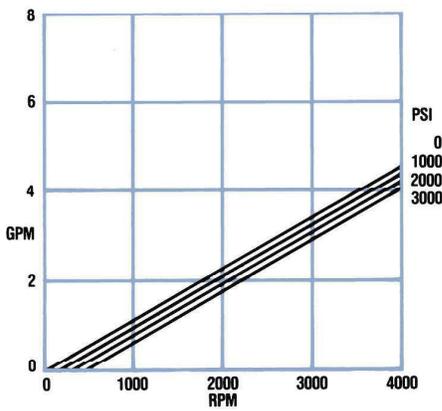
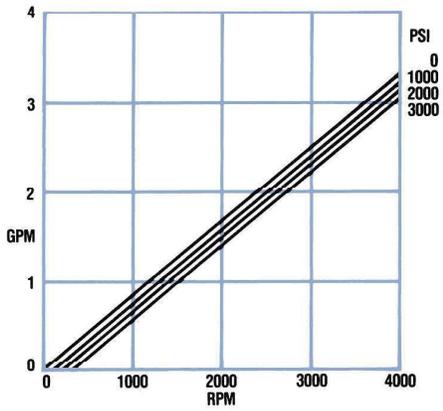
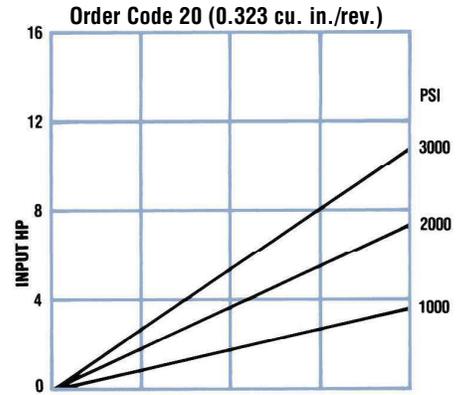
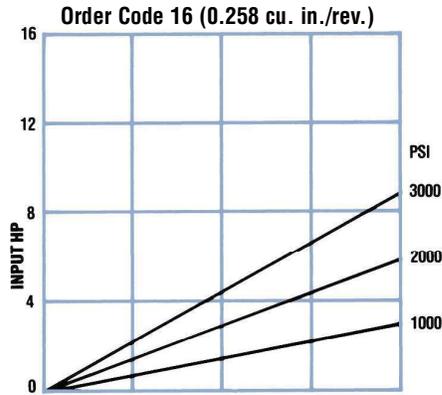
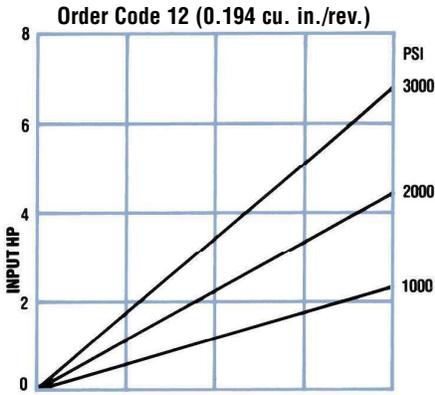
\* Available only with valve option "C", order section 6.

# \* PERFORMANCE



\* Based on 200 SSU oil.

# CURVES



# How To Order G.C. Series Pumps

## ORDERING INFORMATION

Each option has been assigned an order code -- listed in the tables below -- for placement in the sequence shown to the right.

2

Order Code	Mounting Flange Options
1	4-Bolt w/1.78" Pilot
2	2-Bolt SAE "AA" w/2.0" Pilot
▲ 3	2-Bolt SAE "AA" w/1.78" Pilot
4	2-Bolt SAE "A" w/3.25" Pilot

▲ 100-piece minimum order

3

Order Code	Shaft Options
1	0.171" Tang w/ Short Coupling (.5" long) (For DC Motors)
2	0.50" Diameter x 1.50" Extension, 1/8" Square Key
▲ 3	Flexible Coupling
▲ 4	Threaded End (Specify Thread)
5	SAE Spline (9 tooth, 20/40DP standard with flange options 1, 2 and 3; 9 tooth, 16/32 DP standard for flange option 4.)
6	0.171" Tang w/Long Coupling (.8" long) (For AC Motors)

▲ 100-piece minimum order

4 & 5

Order Code	Gear Size Width, Inches	Displacement Cu. In./Rev. (cc)
04	0.125	0.065 (1.07)
06	0.188	0.097 (1.59)
08	0.250	0.129 (2.11)
▲ 10	0.312	0.161 (2.64)
12	0.375	0.194 (3.18)
▲ 14	0.437	0.226 (3.70)
16	0.500	0.258 (4.23)
▲ 18	0.562	0.291 (4.77)
20	0.625	0.323 (5.29)
24	0.750	0.388 (6.36)
28	0.875	0.453 (7.42)
32	1.000	0.517 (8.47)
36	1.125	0.581 (9.52)
40	1.250	0.647 (10.60)
44	1.375	0.711 (11.65)

▲ 100-piece minimum order

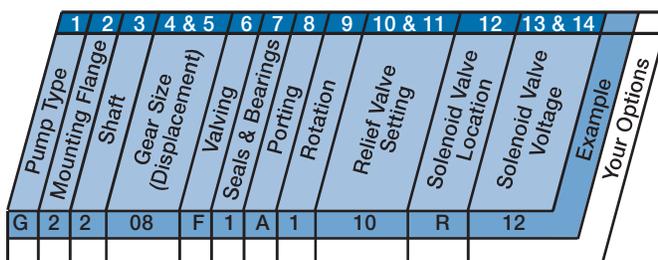
NOTE: Duplex and triple pumps available in minimum 100-piece order.

6

Order Code	Valve Options
A	No Valves
B	Relief Valve
† C	Direction Checks (Not Shown)
* D	Check Valve
* E	Check & Relief Valves (Not Shown)
* F	Check, Relief & Normally Closed Soltnoid
* G	Check, Relief & Normally Open Solenoid
* H	Check, Relief & Solenoid Cavity Plugged

† Available only with option "3" of section 9

\* Available ONLY for gear sizes 04 through 36



G	2	2	08	F	1	A	1	10	R	12	
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7

Order Code	Seals & Bearings Options
1	Single Lip Buna-N Low Pressure Seal
2	Viton Seal
*3	Viton High-Pressure Seal w/Outboard Ball Bearing
▲*4	Double Seal w/Overboard Drain
*5	Buna-N Seal w/Outboard Ball Bearing

▲ 100-piece minimum order.

\* Not available with shaft option 3.

8

Order Code	Port Location Options
A	SAE Side Ports
▲ B	SAE Rear Ports
▲ C	NPTF Side Ports
▲ D	NPTF Rear Ports
▲* E	Inlet Tube, 1.0" w/SAE Side Outlet Port

▲ 100-piece minimum order.

NOTE: If ordering NPTF Ports, specify size: 1/4, 3/8 or 1/2 in.

\* For gear order codes 36, 40 & 44, 1-in. Diameter Inlet Tube must be used for speeds above 2400 RPM.

9

Order Code	Rotation Options
1	Clockwise
2	Counterclockwise
* 3	Biorotational

\* Must specify option "C" in section 6

10 & 11

Order Code	Relief Valve Setting
02-40	Full bypass pressure in hundreds of PSI. (Example: 00 = No Relief; 09 = 900 PSI (Full Bypass Pressure); 40 = 4000 PSI (Full Bypass Pressure).)

NOTE: The maximum relief valve full bypass setting for each gear size as listed on page 2, "intermittent rating" pressure chart.

**Minimum full bypass relief valve settings:** 200 psi for gear sizes 04-16 at 1725 rpm, 300 psi for gear sizes 18-44 at 1725 rpm. At speeds above 1725 rpm, the minimum relief valve settings increase. Contact factory for specific information.

12

Order Code	Solenoid Valve Location
R	Rear Mounted Solenoid Valve
S	Side Mounted Solenoid Valve
N	No Solenoid Valve

13 & 14

Order Code	Solenoid Valve Voltage
12	12 Volts DC
24	24 Volts DC
15	115 Volts AC
*PG	Solenoid Valve Cavity Plugged
00	No Solenoid Valve Cavity

\* Must specify option "H" in section 6

# Only Haldex offers this extensive range of pumps, hydraulic motors, power packs and flow dividers, worldwide.

## GC Series Hydraulic Pumps

Compact cast iron gear pumps with a wide variety of integrated options provide custom systems capability and high-efficiency performance. Displacements from 0.065 to 0.711 cu. in. (1.06 to 11.65 cc) per revolution. Pressures to 4,000 psi (275 bar).

## D Series Hydraulic Pumps

Compact, external gear pumps for use in pumping fluids with lubricating qualities. Suitable for use in a wide variety of applications, including agricultural, construction, transmission charge and lube, and diesel fuel transfer. Displacements from .232 cu. in. to 1.395 cu. in. (3.8 - 22.9 cc) per revolution. Pressures to 3,000 psi (207 bar).

## H Series Hydraulic Pumps

Cast iron, external gear pumps for use in pumping fluids with lubricating qualities. Designed to provide reliable, long-life service under rugged conditions. Suitable for use in a wide variety of applications, including agricultural, construction, transmission charge and lube, and diesel fuel transfer. Displacements from 0.60 cu. in. to 2.40 cu. in. (9.8 - 39.4 cc) per revolution. Pressures to 3,000 psi (207 bar).

## W Series Gear Pumps

Highly efficient pumps feature 4,000 psi continuous operation, speed range from 500 to 4,000 rpm, low noise operation and overall efficiency greater than 90%. Displacements from .183 to 3.05 cu. in. (3 to 50 cc) per revolution. Other features include SAE, ISO and DIN shafts, flanges and ports; integrated valves and multiple pump configurations.

## G20-LS/G-30LS Load Sense Variable Discharge Gear Pumps

Offers the horsepower conservation of a load sense system and the low cost reliability of a gear pump. Featuring cast iron construction and 4,000 psi continuous operation for severe-duty applications. Displacements from 1.41 to 9.82 cu. in. (23 to 161 cc).

## G20 & G30 Series Gear Pumps

Rugged cast iron pumps offer high performance for severe-duty applications. Available in single, multiple and through-drive versions. Displacements from 1.41 to 9.82 cu. in. (23 to 161 cc) per revolution. Pressures to 4,000 psi (275 Bar) continuous.

## G20 / G30 Specialty Products

- G20-DM Pump/Motor Series, G20 series pump with direct mount motor options. Motor options --- 7.5 HP, 10 HP, and 15 HP and displacements from 1.41 to 2.94 cu. in. (23 to 48 cc) for pump/motor units. Integral manifold options also available.
- G20 / G30 PTO Pump Series. Specifically designed pump options and features for PTO (power take off) applications. Displacements from 1.41 to 9.82 cu. in. (23 to 161 cc).
- G20 / G30 two section flow dividers. Displacements from 1.41 to 9.82 cu. in. (23 to 161 cc) per section. Pressures to 4,000 psi continuous (275 Bar).

## Gerotor Pumps

High-efficiency, low-maintenance design with quiet operation and uniform flow. Extremely tolerant of contamination. Displacements from 0.05 to 8.29 cu. in. (0.8 to 135.8 cc) per revolution. Pressures to 2,000 psi (136 Bar).

## GC-9500 AC Hydraulic Power Units

AC power units offering the ultimate in design versatility and ordering flexibility. It can be ordered completely assembled or in kits. Standard options include: motors (1/2-5 hp, TEFC, open, and drip-proof); 4 reservoirs (5,10, 15 and 20 gal.); and pumps (pressure balanced and high/low with flows to 28 gpm and pressures to 3500 psi).

## HE 1000 & HE 2000 AC & DC Hydraulic Power Packs

Self-contained modular power systems in fully assembled or kit form; wide range of standard or high efficiency pumps, motors, switches, mounts, valves, and reservoirs. Custom options also available. Pressures to 4,000 psi (275 Bar). Flows from 0.20 to 7.0 GPM.

## Hydraulic Motors

Available in the GC, W and G20 Series in unidirectional and birotational configurations. Motors available with modular valve, bearing, seal and shaft options for maximum flexibility. Displacements from 0.065 to 5.30 cu. in. (1.06 to 87.0 cc) per revolution. Pressures to 4,000 psi (275 Bar).

## Two-Stage Hydraulic Pumps

External gear pumps designed for high-speed positioning coupled with maximum working pressure. High-pressure displacements from 0.258 to 1.395 cu. in. (4.23 to 22.86 cc) per revolution. Pressures to 4,000 psi (275 Bar). Flows from 5 to 28 GPM.

## Rotary Flow Dividers

Rotary-gear units up to four sections for synchronized operation of multiple cylinders or motors, proportional division of output or intensified flow. Single-section displacements from 0.065 to 0.813 cu. in. (1.0 to 13.32 cc) per revolution. Pressures to 4,500 psi (306 Bar).

## Call us for more information

For application assistance or detailed literature on any Haldex product line, call us toll-free: **1-800-572-7867**.  
Visit our web site: <http://www.hbus.haldex.com>  
E-mail us: [sales.usro@haldex.com](mailto:sales.usro@haldex.com)





## PRODUCT RANGE

### He Power Packs

12/24/48 VDC 0.8 - 3.5 kW and 0.75  
- 3 kW AC modular power packs

### Pressure Switches

5 - 350 bar connecting /  
disconnecting

### He Classic Power Packs

12/24/48 VDC modular  
powerpacks in weatherproof boxes

### W300 Hydraulic Pumps

0.8 - 5.7 cc/section, 230 bar

### W600 Hydraulic Pumps

4 - 12 cc/section, 276 bar

### WM600 Hydraulic Motors

4 - 12 cc/section, 276 bar

### W900 Hydraulic Pumps

5 - 31 cc/section, 276 bar

### WM900 Hydraulic Motors

5 - 31 cc/section, 276 bar

### WQ900 The Quiet Pump

5 - 27 cc/section, 230 bar

### W1500 Hydraulic Pumps

19 - 50 cc/section, 276 bar

### WM1500 Hydraulic Motors

19 - 50 cc/section, 276 bar

### G25 Hydraulic Pumps

23 - 87 cc/section, 250 bar

### GM25 Hydraulic Motors

23 - 87 cc/section, 250 bar

### GPA Internal Gear Pumps

1.7 - 63 cc/section, 100 bar

### GC Hydraulic Pumps/Fluid Motors

1.06 - 11.65 cc/section, 276 bar

### II-Stage Hydraulic Pumps

4.2 - 22.8 cc/section, 276 bar

### Rotary Flow Dividers

3.8 - 13.3 cc/section, 300 bar

### D Hydraulic Pumps

3.8 - 22.9 cc/section, 207 bar

### H Hydraulic Pumps

9.8 - 39.4 cc/section, 207 bar

### G20/G30 Hydraulic Pumps

23 - 161 cc/section, 276 bar

### GM20/GM30 Hydraulic Motors

23 - 161 cc/section, 276 bar

### G20/G30 (LS) Hydraulic Pumps

23 - 161 cc/section, 276 bar

### Transmission Pumps

### Fuel Pumps

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