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Versatile, Reliable Pumps for a Wide Range of Applications



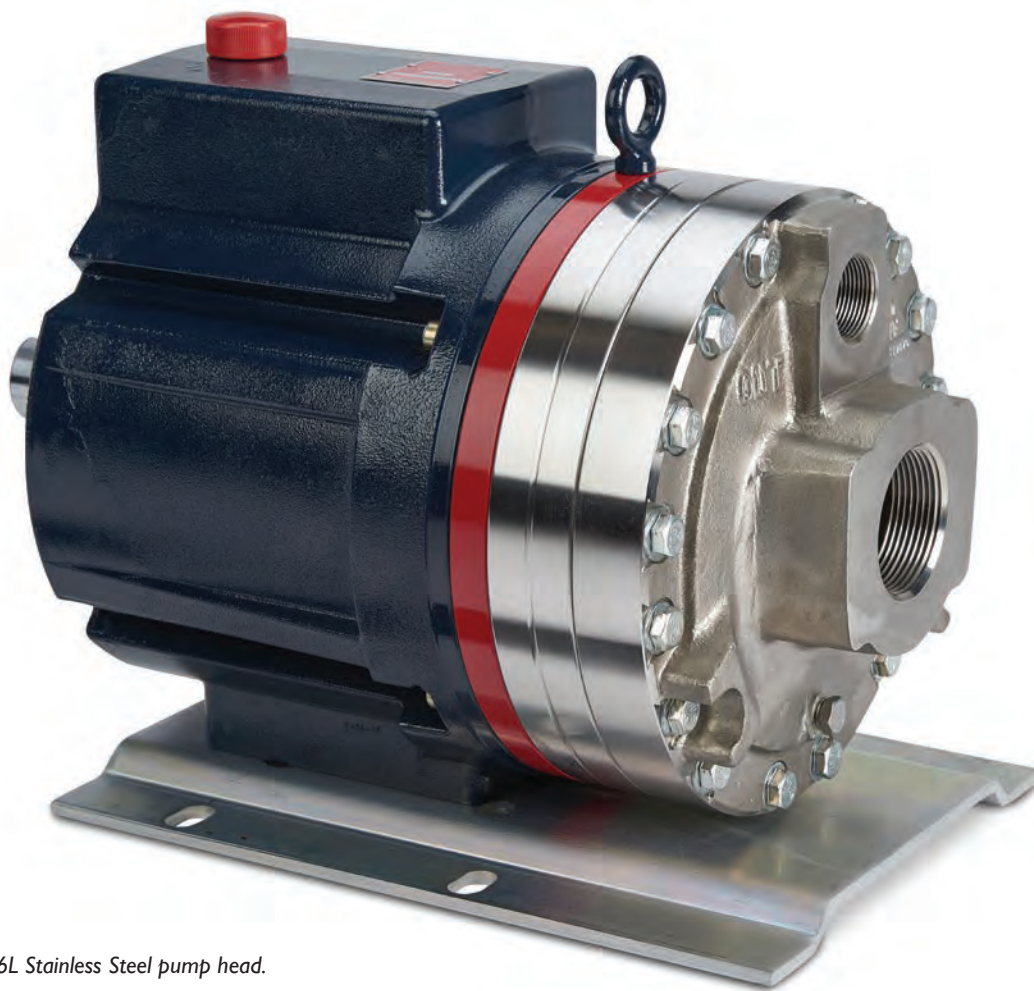
G35 Series

- Pumps the full spectrum of low-to-high viscosity fluids.
- Features a seal-less design and horizontal disk check valves that enable the pump to handle abrasives and particulates that might damage or destroy other types of pumps.
- Simple, compact design reduces initial investment and lowers maintenance costs.
- Operational efficiencies reduce energy costs.
- Able to run dry without damage (or additional maintenance) to the pump in case of accident or operator error.
- Tolerates non-ideal operating conditions.
- Minimizes maintenance and downtime because there are no mechanical or dynamic seals, packing, or cups to leak, wear, or replace.

G35 Series

Maximum Flow Rate: 36.5 gpm (138 l/min)

Maximum Pressure: 1500 psi (103 bar) for Metallic Pump Heads



G35 with 316L Stainless Steel pump head.



G35 with Brass pump head.



G35 with 316L Stainless Steel pump head and ANSI flanges.

G35 Series Performance

Capacities

Flow

| Model | Max. Input rpm | Max. Flow | |
|-------|----------------------|----------------------------|-------|
| | | @ 1200 psi (83 bar) gpm | l/min |
| G35-X | 1050 | 36.5 | 138 |
| G35-E | 1150 | 34.0 | 129 |

| Model | Max. Input rpm | Max. Flow | |
|-------|----------------------|------------------------------|-------|
| | | @ 1500 psi (103 bar)* gpm | l/min |
| G35-X | 700 | 23.1 | 87.5 |

Pressure

Maximum Inlet Pressure

250 psi (17 bar) with 1500 psi (103 bar) maximum discharge pressure

500 psi (34 bar) with 1200 psi (83 bar) maximum discharge pressure

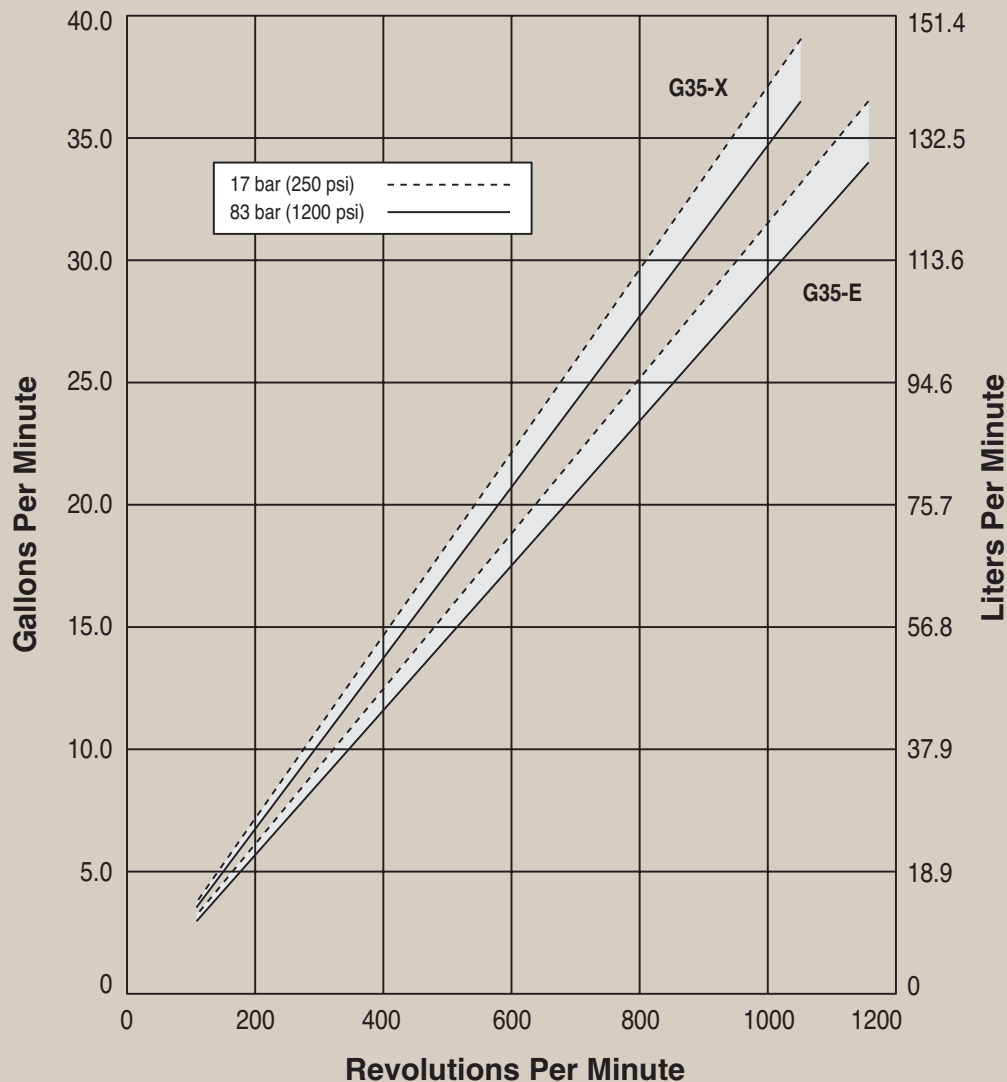
Maximum Discharge Pressure

1200 psi (83 bar) @ 1150 rpm max.

1500 psi (103 bar) @ 700 rpm max.

Performance and specification ratings apply to G35 configurations unless specifically noted otherwise.

Maximum Flow at Designated Pressure



* Consult factory if operating above 1200 psi (83 bar).



G35 Series Specifications

Flow Capacities @ 83 bar (1200 psi) 6-pole Motor @ 50 Hz

| Model | rpm | gpm | l/min |
|-------|-----|-------|--------|
| G35-X | 960 | 33.50 | 127.00 |
| G35-E | 960 | 29.00 | 110.00 |

Flow Capacities @ 83 bar (1200 psi) 8-pole Motor @ 50 Hz

| Model | rpm | gpm | l/min |
|-------|-----|-------|-------|
| G35-X | 730 | 25.50 | 96.60 |
| G35-E | 730 | 22.10 | 83.60 |

Delivery @ 83 bar (1200 psi)

| Model | gal/rev | liters/rev |
|-------|---------|------------|
| G35-X | 0.0347 | 0.1314 |
| G35-E | 0.0296 | 0.1120 |

Delivery @ 103 bar 1500 psi)

| Model | gal/rev | liters/rev |
|-------|---------|------------|
| G35-X | 0.0330 | 0.1250 |

Maximum Discharge Pressure

Metallic Heads: 83 bar (1200 psi) @ 1150 rpm max.
103 bar (1500 psi) @ 700 rpm max. - Consult factory if operating above 83 bar (1200 psi).

Maximum Inlet Pressure 17 bar (250 psi) with 103 bar (1500 psi) maximum discharge pressure
34 bar (500 psi) with 83 bar (1200 psi) maximum discharge pressure

Maximum Operating Temperature

Metallic Heads: 121 °C (250 °F) - Consult factory for correct component selection for temperatures from 71 °C (160 °F) to 121 °C (250 °F).

Maximum Solids Size 800 microns

Inlet Port 2-1/2 inch BSPT
2-1/2 inch NPT
150lb or 600lb ANSI RF flange
3 inch SAE flange

Discharge Port 1-1/4 inch BSPT
1-1/4 inch NPT
600lb or 1500lb ANSI RF flange
1-1/4 inch SAE flange

Shaft Diameter 50.8 mm (2 inch)

Shaft Rotation Reverse (bi-directional)

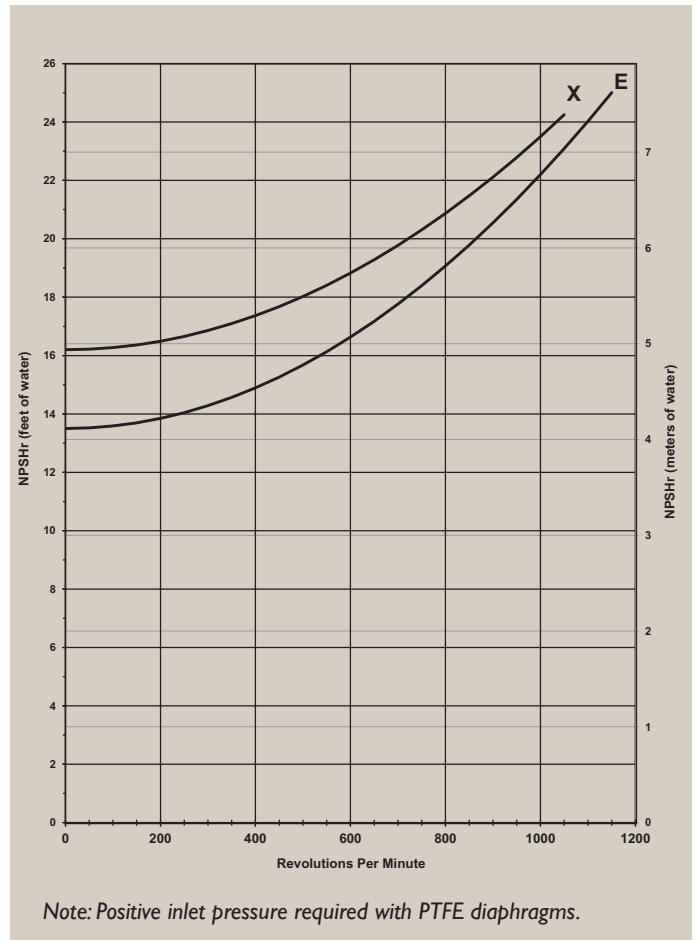
Bearings Tapered roller bearings

Oil Capacity 7.3 liters (7.75 US quarts)

Weight

Metallic Heads: 116.6 kg (257 lbs.)

Net Positive Suction Head (NPSHr)



Suction Lift:

Each Hydra-Cell pump has different lift capability depending on model size, cam angle, speed, and fluid characteristics. To ensure that your specific lift characteristics are met, refer to the inlet calculations regarding friction, and acceleration head losses in your Hydra-Cell Installation & Service Manual. Compare those calculations to the NPSHr curves above.

Calculating Required Power

$$\frac{100 \times \text{rpm}}{63,000} + \frac{\text{gpm} \times \text{psi}}{1,460} = \text{electric motor hp}$$

$$\frac{100 \times \text{rpm}}{84,428} + \frac{\text{l/min} \times \text{bar}}{511} = \text{electric motor kW}$$

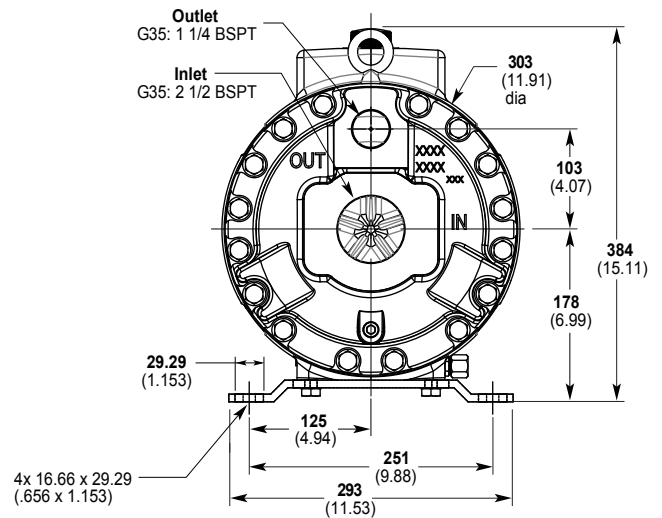
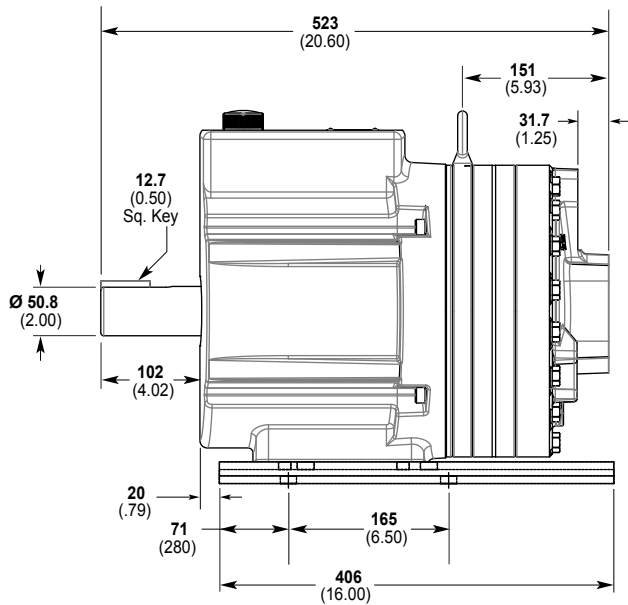
When using a variable frequency drive (VFD) controller calculate the hp or kW at minimum and maximum pump speed to ensure the correct hp or kW motor is selected. Note that motor manufacturers typically de-rate the service factor to 1.0 when operating with a VFD.

Calculating Pulley Size

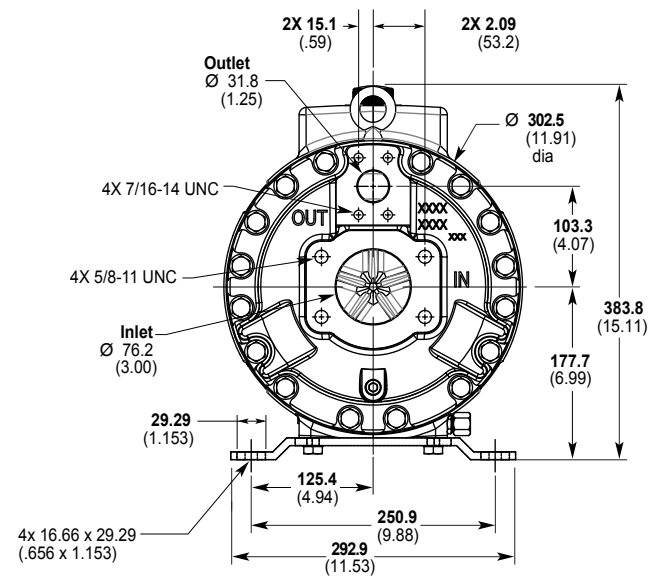
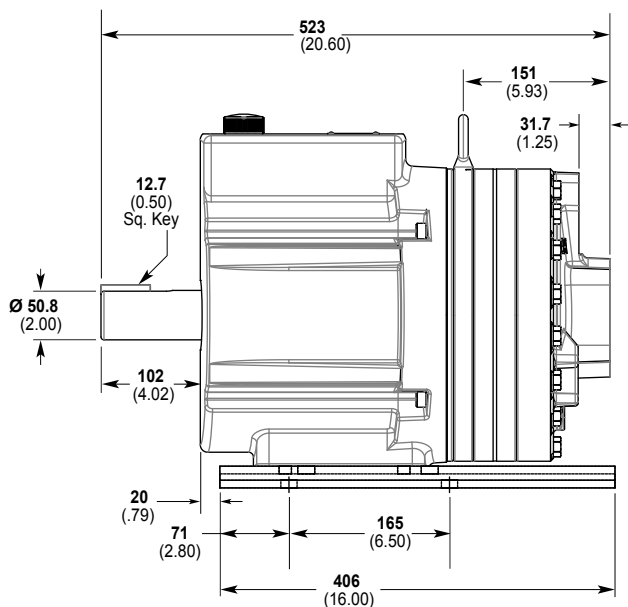
$$\frac{\text{motor pulley OD}}{\text{pump rpm}} = \frac{\text{pump pulley OD}}{\text{motor rpm}}$$

G35 Series Representative Drawings

G35 Models with BSPT Inlet/Outlet Ports mm (Inches)



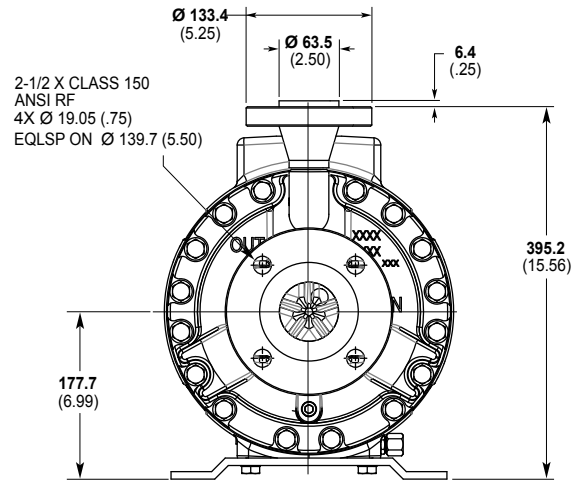
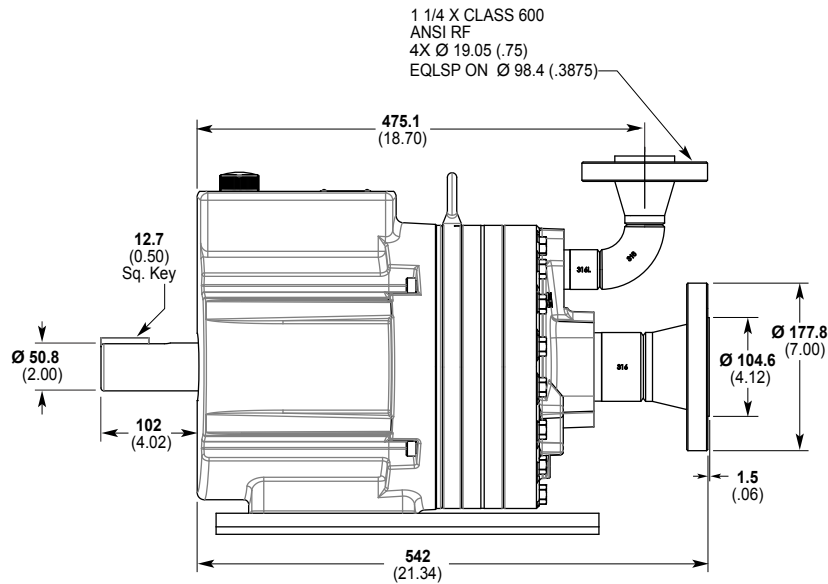
G35 Models with SAE Flange Inlet/Outlet Ports mm (Inches)



Note: Dimensions are for reference only. Contact factory for certified drawings.

G35 Series Representative Drawings/Valves/Skids

G35 Models with ANSI Flange Inlet/Outlet Ports mm (Inches)



Note: Dimensions are for reference only. Contact factory for certified drawings.

Valve Selection

A seal-less C64 Pressure Regulating Valve is recommended for Hydra-Cell G35 pumping systems, especially for high-pressure requirements or when handling dirty fluids.



A C24 Pressure Regulating Valve provides a capable, lower-cost alternative to C64 valves for Hydra-Cell G35 pumping systems.



Skid-mounted G35 with 20hp, 3-phase motor.



For complete specifications and ordering information, consult the Hydra-Cell Master Catalog.

G35 Series How to Order

Ordering Information

| | | | | | | | | | | | |
|---------------|---------------|---------------|---|---|---|---|---|---|----|----|----|
| 1 G | 2 3 | 3 5 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---------------|---------------|---------------|---|---|---|---|---|---|----|----|----|

A complete G35 Series Model Number contains 12 digits including 9 customer-specified design and materials options, for example: G35XKBTHFECA.

| Digit | Order Code | Description |
|------------|------------|--|
| 1-3 | G35 | Pump Configuration Shaft-driven (BSPT Ports or SAE or ANSI Flanges) |
| 4 | X | Hydraulic End Cam Max 127.0 l/min (33.5 gpm) @ 960 rpm |
| | E | Max 110.0 l/min (29.1 gpm) @ 960 rpm |
| 5 | K | Pump Head Version Kel-Cell BSPT Ports or ANSI Flanges |
| | E | Kel-Cell SAE Flanges |
| 6 | B | Pump Head Material Brass |
| | C | Ductile Iron (Nickel-plated) |
| | G | Duplex Alloy 2205 Stainless Steel (with Hastelloy C followers & follower screws) |
| | Q | 316L Stainless Steel ANSI flange class 600 x 1500 |
| | R | 316L Stainless Steel ANSI flange class 150 x 600 |
| | S | 316L Stainless Steel - threaded or SAE ports |
| | T | Hastelloy CW12MW |
| 7 | A | Diaphragm & O-ring Material Aflas diaphragm / PTFE o-ring |
| | E | EPDM (requires EPDM-compatible oil - Digit 12 oil code D) |
| | G | FKM |
| | J | PTFE (available with E cam only; 1050 rpm max.) |
| | P | Neoprene |
| | T | Buna-N |
| 8 | C | Valve Seat Material Ceramic |
| | D | Tungsten Carbide (900 rpm max.) |
| | H | 17-4 Stainless Steel |
| | N | Nitronic 50 |
| | T | Hastelloy C |
| 9 | C | Valve Material Ceramic |
| | D | Tungsten Carbide (900 rpm max.) |
| | F | 17-4 Stainless Steel |
| | N | Nitronic 50 |
| | T | Hastelloy C |
| 10 | E | Valve Springs Elgiloy |
| | H | 17-7 Stainless Steel |
| | T | Hastelloy C |

| Digit | Order Code | Description |
|-----------|------------|--|
| 11 | C | Valve Spring Retainers Celcon |
| | H | 17-7 Stainless Steel |
| | M | PVDF |
| | P | Polypropylene |
| | T | Hastelloy C |
| | Y | Nylon (Zytel) |
| 12 | A | Hydra-Oil 10W30 standard-duty oil |
| | B | 40-wt for continuous-duty oil (use with 316L SST or Hastelloy CW12MW pump head - standard) |
| | D | EPDM-compatible oil |
| | E | Food-contact oil |
| | G | 5W30 cold-temp severe-duty synthetic oil |
| | H | 15W50 high-temp severe-duty synthetic oil |

G35 Pump Housing is standard as Cast Aluminum. Upgrade to Ductile Iron available.

Consult the Hydra-Cell Master Catalog for:

- Motors, bases, couplings and other pump accessories
- Hydra-Oil selection and specification information
- Design considerations, installation guidelines, and other technical assistance in pump selection

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