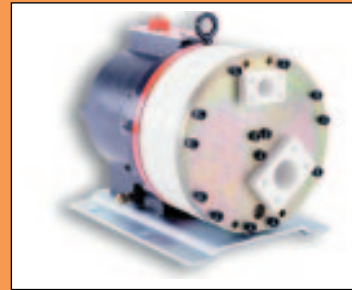


# D-35 Series

*Up to 37 gpm (140 l/min)*

## D-35 Specialized Designs



Hydra-Cell Slurry Duty pumps are specifically designed for abrasive slurry applications. See page 78 for complete specifications.



The D-35 Hydra-Cell can be equipped with an SAE or ANSI flange pump head for critical performance applications.



**Hydra-Cell**<sup>®</sup>  
SIMPLY BUILT TO LAST

# D-35 Series Performance

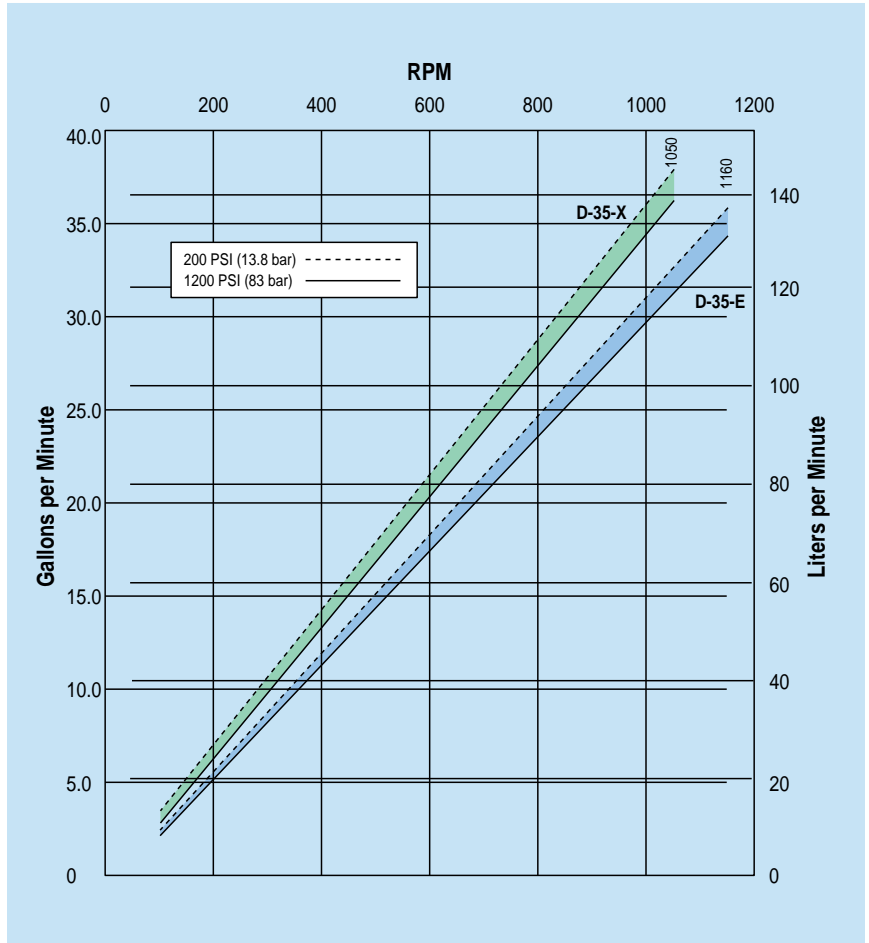
## flow

| model         | max flow |       | max input |
|---------------|----------|-------|-----------|
|               | gpm      | l/min | rpm       |
| <b>D-35-X</b> | 37       | 140   | 1050      |
| <b>D-35-E</b> | 35       | 132   | 1150      |

## pressure

**Maximum Inlet Pressure:**  
250 psi (17.3 bar)

**Pressure Variable To:**  
1200 psi (83 bar)



# D-35 Series Specifications

## Maximum Capacity

|        | rpm  | gpm | l/min |
|--------|------|-----|-------|
| D-35-X | 1050 | 37  | 140   |
| D-35-E | 1150 | 35  | 132   |

## Delivery @ max pressure

|        | revs/gal | revs/liter |
|--------|----------|------------|
| D-35-X | 29       | 7.7        |
| D-35-E | 31       | 8.2        |

**Max Inlet Pressure** 250 psi (17.3 bar)

**Pressure Variable to** 1200 psi (83 bar)

**Max Temperature** 250°F (121°C) – Consult factory for correct component selection for temperatures above 160°F (71°C)

**Inlet Port** 2-1/2 inch NPT or 3 inch SAE flange

**Discharge Port** 1-1/4 inch NPT or 1-1/4 inch SAE flange

**Shaft Diameter** 2 inch

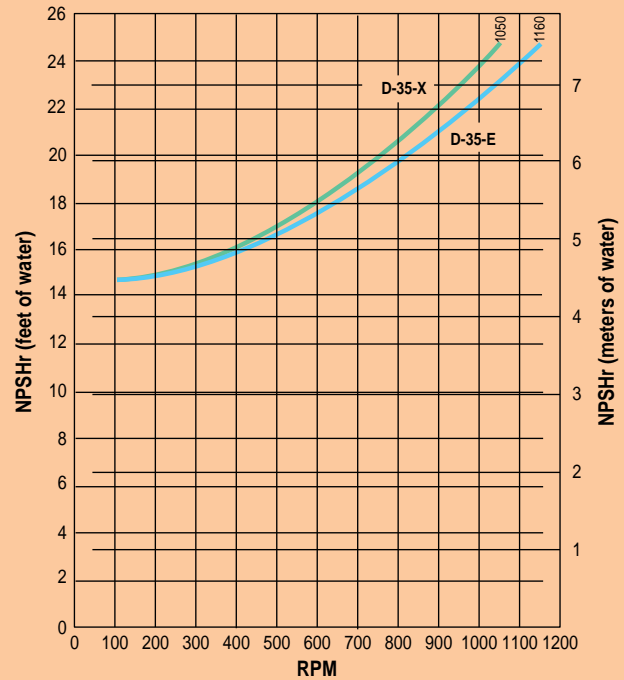
**Shaft Rotation** Bi-directional

**Bearings** Tapered roller

**Oil Capacity** 5 US quarts (4.7 liters), see page 100 for oil selection and specification.

**Weight** 240 lbs (109 kg)

## Net Positive Suction Head (NPSHr)

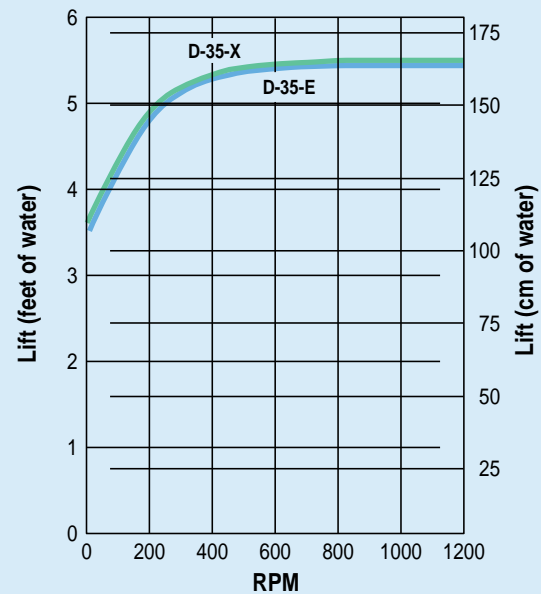


## Calculating Required Horsepower

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

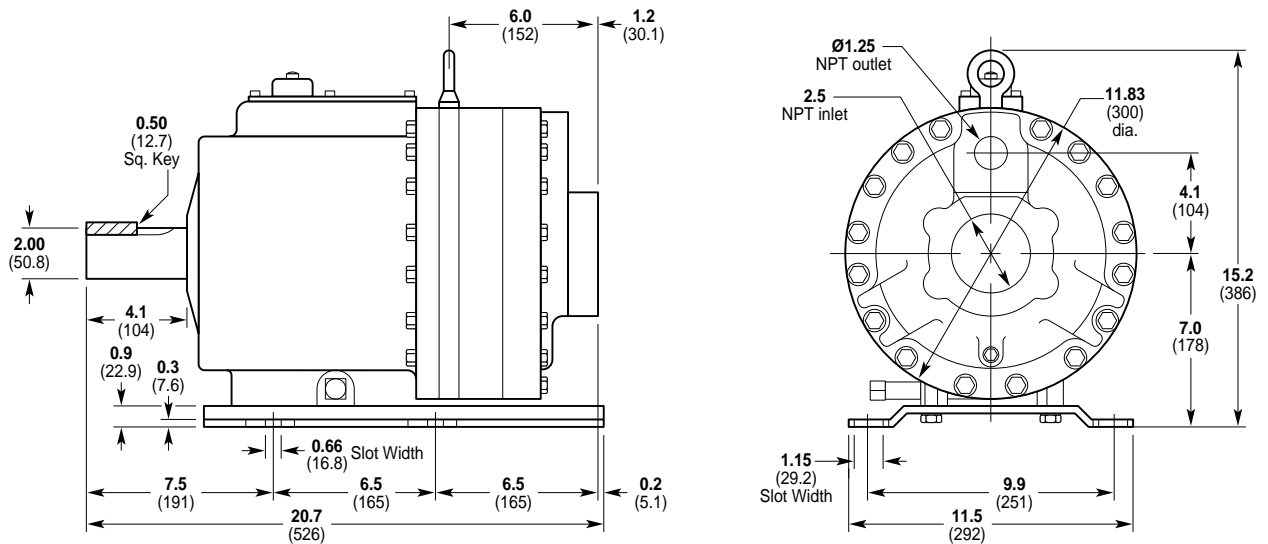
For installation guidelines and other pump selection design considerations, refer to pages 107-111.

## Dry Lift

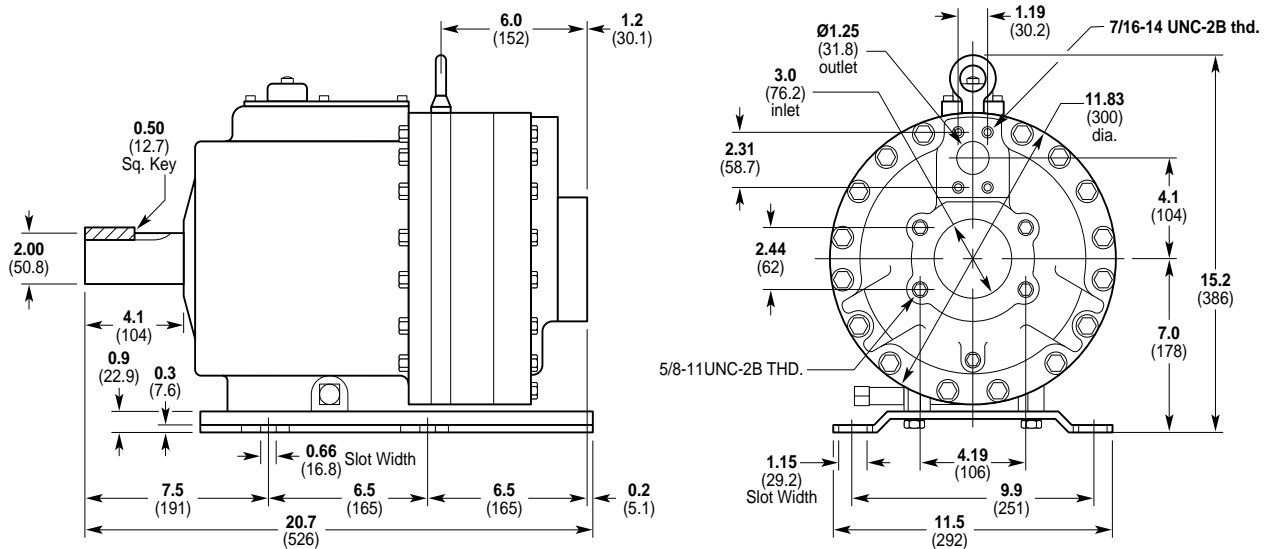


# D-35 Series Dimensions

## D-35 Models with NPT Inlet/Outlet Ports



## D-35 Models with SAE Flange Inlet/Outlet Ports



# D-35 Series Options

## Materials of Construction

D-35 Hydra-Cell pumps are manufactured in a variety of heavy-duty materials to meet specific pumping needs. Refer to the design section for more information on appropriate material selection and chemical compatibility. Other customized materials are available by special order. Contact factory application engineering department for further information.



### Pumping Head

316 Stainless Steel  
Brass  
Ductile Iron, Nickel Plated  
Nickel Alloy (Hastelloy Remelt, CMW12D)



### Valves

17-4 PH Stainless Steel  
Ceramic  
Hastelloy® C  
Nitronic 50  
Tungsten Carbide



### Diaphragms & O-rings

Buna-N  
Buna-N-XS  
EPDM  
Neoprene  
Teflon®  
Viton®  
Viton®-XT



### Valve Springs

17-7 PH Stainless Steel  
Elgiloy®  
Hastelloy® C



### Valve Seats

17-4 PH Stainless Steel  
Ceramic  
Hastelloy® C  
Nitronic 50  
Tungsten Carbide



### Valve Spring Retainers

17-7 PH Stainless Steel  
Celcon®  
Hastelloy® C  
Kynar®  
Nylon (Zytel®)  
Polypropylene

# D-35 Series Accessories

## Options, Accessories and Custom Designs

- Valves, page 84
- Couplings, page 95
- Pump/Motor Baseplates and Guards, page 96
- Hose Connectors, page 99
- Hydra-Oil, page 100
- Oil Cooler and Filtering System, page 102
- Oil Level Monitoring Kit, page 103
- Oil Reservoir, page 104
- Tool Kits, page 105



## Welded Flange Pump Heads

The D-35 Hydra-Cell can be equipped with welded flange pump heads for critical performance applications such as oil/gas installations and chemical process facilities.

### Design Features

- 316 stainless steel flanges
- Optional ductile iron pump housing
- 2-1/2" x 150# ANSI pipe flange inlet;  
1-1/4" x 600# ANSI pipe flange outlet

### Ordering Information

Contact factory for complete specifications and ordering information.

# D-35 Series How To Order

## Ordering Information

A complete D-35 Series Model Number contains 12 digits of customer-specified design options: for example D35XABNHFECA.

|          |          |          |          |          |          |          |          |          |           |           |           |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|
| <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>7</b> | <b>8</b> | <b>9</b> | <b>10</b> | <b>11</b> | <b>12</b> |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|

| Digit      | Order Code | Description  |
|------------|------------|--|
| <b>1-3</b> |            | <b>Pump Configuration</b>                                      |
|            | <b>D35</b> | Shaft-driven   |
| <b>4</b>   |            | <b>Hydraulic End Cam</b>                                       |
|            | <b>X</b>   | Max 37 gpm (140 lpm) @ 1050 rpm                                |
|            | <b>E</b>   | Max 35 gpm (132 lpm) @ 1150 rpm                                |
| <b>5</b>   |            | <b>Pump Head Version</b>                                       |
|            | <b>A</b>   | NPT Threaded Ports Version Pump Head                           |
|            | <b>G</b>   | SAE Flange Version Pump Head                                   |
| <b>6</b>   |            | <b>Pump Head Material</b>                                      |
|            | <b>B</b>   | Brass  |
|            | <b>C</b>   | Cast Iron (nickel plated)                                      |
|            | <b>S</b>   | 316 Stainless Steel  |
|            | <b>T</b>   | Nickel Alloy (Hastelloy® Remelt, CMW12D)                       |
| <b>7</b>   |            | <b>Diaphragm &amp; O-ring Material</b>                         |
|            | <b>E</b>   | EPDM (requires EPDM-compatible oil – Digit 12 oil code C or D) |
|            | <b>G</b>   | Viton®-XT  |
|            | <b>J</b>   | Teflon® (available with E cam only; 1050 rpm max)              |
|            | <b>N</b>   | Buna-N   |
|            | <b>P</b>   | Neoprene   |
|            | <b>T</b>   | Buna-N-XS  |
|            | <b>V</b>   | Viton®   |
| <b>8</b>   |            | <b>Valve Seat Material</b>                                     |
|            | <b>C</b>   | Ceramic  |
|            | <b>D</b>   | Tungsten Carbide   |
|            | <b>H</b>   | 17-4 PH Stainless Steel  |
|            | <b>N</b>   | Nitronic 50  |
|            | <b>T</b>   | Hastelloy® C   |
| <b>9</b>   |            | <b>Valve Material</b>  |
|            | <b>C</b>   | Ceramic  |
|            | <b>D</b>   | Tungsten Carbide   |
|            | <b>F</b>   | 17-4 PH Stainless Steel – Machined                             |
|            | <b>N</b>   | Nitronic 50  |
|            | <b>T</b>   | Hastelloy® C   |

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

### Replacement Hydraulic End Assembly

Complete D-35 Hydraulic End Assemblies are available as replacement items. The Hydraulic End contains all drive end components from the drive shaft up to and including the diaphragms. All Hydraulic Ends are factory tested and shipped with oil. To order a Replacement Hydraulic End, specify the desired Cam (Digit 4), the Diaphragm and O-ring Material (Digit 7), and the Hydra-Oil (Digit 12).

#### Part Number\*

**D35** 4\* **XX** 7\* **XXXX** 12\*

\* Order Code Digits 4, 7 and 12 must be filled in when ordering.