Motor Mounting Types
Motor Mounting Types

- Overview/Objectives:
  - Mounting Types and Their Uses
  - Industry Dimensional Standards Overview and Comparison
Motor Mounting Types

- Base Mount / Foot Mounted
- Flange Mounted:
  - C-Flange
  - D-Flange
- P-Base
- Pump Mount
- IEC Metric
  - B3 base
  - B5 C-face
  - B14 Flange
Motor Mounting Types

Examples of flange mounts

C-Face

D-Flange

P-Base
Motor Mounting Types - Positioning

Section I
DIMENSIONS, TOLERANCES, AND MOUNTING

FLOOR MOUNTINGS

ASSEMBLY F-1

ASSEMBLY F-2

ASSEMBLY F-3

WALL MOUNTINGS

ASSEMBLY W-1

ASSEMBLY W-2

ASSEMBLY W-3

ASSEMBLY W-4

ASSEMBLY W-5

ASSEMBLY W-6

ASSEMBLY W-7

ASSEMBLY W-8

ASSEMBLY W-9

ASSEMBLY W-10

ASSEMBLY W-11

ASSEMBLY W-12

CEILING MOUNTINGS

ASSEMBLY C-1

ASSEMBLY C-2

ASSEMBLY C-3

Figure 4-6
MACHINE ASSEMBLY SYMBOLS
Industry Standards
### NEMA
National Electrical Manufacturers Association

- Common within North American market.
- NEMA Standards Publication MG 1-2011 for Motors and Generators is specification title.

### IEC
International Electrotechnical Commission

- Worldwide organization.
- IEC 60034 Rotating Electrical Machines is specification title.
NEMA Dimensions

U = Shaft Diameter

D

N-W

2E

2F

BA
## NEMA Dimensions “D” Dimension

<table>
<thead>
<tr>
<th>Frame Size</th>
<th>“D” Dimension</th>
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</thead>
<tbody>
<tr>
<td>48</td>
<td>3” (48/16)</td>
</tr>
<tr>
<td>56</td>
<td>3.5”</td>
</tr>
<tr>
<td>143T, 145T</td>
<td>3.5” (14/4)</td>
</tr>
<tr>
<td>182T, 184T</td>
<td>4.5”</td>
</tr>
<tr>
<td>213T, 215T</td>
<td>5.25”</td>
</tr>
<tr>
<td>254T, 256T</td>
<td>6.25”</td>
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<tr>
<td>284T, 286T</td>
<td>7”</td>
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<tr>
<td>324T, 326T</td>
<td>8”</td>
</tr>
<tr>
<td>364T, 365T</td>
<td>9”</td>
</tr>
<tr>
<td>404T, 405T</td>
<td>10”</td>
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<tr>
<td>444T, 445T, 447T, 449T</td>
<td>11”</td>
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<tr>
<td>5006, 5008, 5010, 5012</td>
<td>12.5”</td>
</tr>
<tr>
<td>5808, 5810, 5812</td>
<td>14.5”</td>
</tr>
</tbody>
</table>
NEMA Dimensions

- **Frame Size**
  - **Integral and Large AC Motors**
    - First two digits / 4 = “D” dimension in inches
    - Third Digit (and fourth) = Relative Length - 2F Dimension
  - **Fractional HP Motors**
    - Two digits / 16 = “D” dimension in inches
    - Prefix Letters = Relative Length
  - **Suffix Letters show mountings, Special Shafts, Mountings**

- **HP - NEMA sizes or Special**
- **Duty - Continuous, Time Based**
Quiz

• Name two motor mounting types.
• Who maintains the two global standards for motor construction?
• What does the D dimension specify?