

## EQUIPMENT LIST

### 5-Axis Horizontal

| Equipment        | QTY | X      | Y      | Z      |
|------------------|-----|--------|--------|--------|
| Haas EC - 1600   | 1   | 64"    | 50"    | 32"    |
| Haas EC - 1600   | 1   | 64"    | 40"    | 32"    |
| Okuma MA 600 Hii | 1   | 39.37" | 35.43" | 39.37" |
| Makino A77       | 4   | 31.5"  | 29.5"  | 30.3"  |
| Okuma Horiz 40-H | 2   | 22.04" | 22.04" | 22.04" |

### 4-Axis Horizontal

| Equipment                | QTY | X      | Y      | Z      |
|--------------------------|-----|--------|--------|--------|
| Doosan HP5500 Horz       | 2   | 31.5"  | 24.8"  | 29.5"  |
| Toyoda FA 550 Horizontal | 1   | 29.52" | 29.52" | 23.62" |
| Mitsubishi M-H50C/D 50   | 4   | 28.4"  | 24.8"  | 24.8"  |
| Mitsubishi M-H4B         | 2   | 25.6"  | 22.0"  | 25.6"  |
| Haas HS-TRP HCM          | 1   | 24"    | 20"    | 22"    |
| Makino A55               | 1   | 22"    | 22"    | 22"    |

### 3-Axis Horizontal

| Equipment        | QTY | X     | Y     | Z     |
|------------------|-----|-------|-------|-------|
| Mitsubishi H50D  | 1   | 28.4" | 24.8" | 24.8" |
| Horizontal FA450 | 1   | 23.6" | 23.6" | 22"   |
| Cell - Con       | 1   | 24"   | 17"   | 18"   |

### 5-Axis Vertical

| Equipment               | QTY | X      | Y      | Z      |
|-------------------------|-----|--------|--------|--------|
| Mazak i-800V/8          | 1   | 69.93" | 59.06" | 45.28" |
| Mazak Integrex i-630V/6 | 2   | 56.1"  | 41.34" | 41.34" |
| Mazak VARIAXIS 730      | 6   | 28.74" | 33.46" | 22.05" |
| Mazak VARIAXIS i-800T   | 1   | 28.74" | 33.46" | 22.06" |

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## 4-Axis Vertical

| Equipment             | QTY | X      | Y     | Z      |
|-----------------------|-----|--------|-------|--------|
| Agma VMC 158          | 2   | 59.06" | 31.5" | 27.56" |
| Toyoda FV 65 Vertical | 1   | 50"    | 25.6" | 24.0"  |
| Daewoo DMV 4020       | 1   | 40.1"  | 20.1" | 24.6"  |
| Doosan DNM 500HS      | 3   | 40"    | 21.2" | 20.1"  |

## 3-Axis Vertical

| Equipment              | QTY | X      | Y      | Z      |
|------------------------|-----|--------|--------|--------|
| Matsuura               | 1   | 40"    | 20"    | 20"    |
| Okuma Howa 3VA         | 1   | 22.8"  | 14.1"  | 19.6"  |
| Hwacheon Sirius-2 Mill | 1   | 22.04" | 16.14" | 18.11" |
| Fadal VMC15            | 1   | 20"    | 16"    | 20"    |
| Fanuc Robo Drill       | 1   | 15.7"  | 11.8"  | 13.0"  |
| Brothers TC311         | 2   | 11.81" | 8.66"  | 7.87"  |
| Brothers 201           | 4   | 7.87"  | 5.91"  | 9.84"  |
| Brothers 203           | 3   | 7.87"  | 5.91"  | 9.84"  |

## Lathes

| Equipment                           | QTY | Turning Diameter | X      | Y      | Z      |
|-------------------------------------|-----|------------------|--------|--------|--------|
| Mazak Integrex E-500H Multi-Tasking | 2   | 32.28"           | 34.25" | 19.69" | 62.91" |
| Daewoo Puma Series 800L             | 1   | 35.4"            | 18.5"  | NA     | 128.0" |
| Daewoo Puma Series 700              | 1   | 35.4"            | 18.5"  | NA     | 65.0"  |
| Okuma Multus U-3000                 | 1   | 25.69"           | 25.39" | 9.84"  | 62.99" |
| Okuma MacTurn 250                   | 1   | 21.65"           | 18.70" | 6.30"  | 40.35" |
| Doosan 2100 Lathe                   | 1   | 18.9"            | 19.2"  | NA     | 23.2"  |
| Daewoo Puma Series 400 LC           | 1   | 22.4"            | 14.3"  | NA     | 84.8"  |
| Doosan TL2500LM                     | 2   | 14.56"           | 9.84"  | NA     | 41.33" |
| Hwacheon Lathe                      | 2   | 13.38"           | 12.2"  | NA     | 26.37" |
| Okuma ACT 4                         | 3   | 13.77"           | 9.64"  | NA     | 29.52" |
| Nakamura Tome                       | 1   | 11.02"           | 9.25"  | NA     | 11.81" |
| Okuma ACT 20                        | 6   | 11.81"           | 7.08"  | NA     | 18.11" |
| Okuma LCC 15 - 2 Turret             | 2   | 10.24"           | 6.89"  | NA     | 12.6"  |

## CMMs

- 1 - Brown & Sharp Global Advantage
  - » 47.2" x 86.6" x 39.4"
  - » PC-DMIS CAD ++ Software
  - » Top acceleration up to 4.3m/s<sup>2</sup>
  - » Volume Metric Accuracy to 8 Microns
- 2 - Brown & Sharp Global Advantage
  - » 47.2" x 118.1" x 39.4"
  - » PC-DMIS CAD ++ Software
  - » Top acceleration up to 4.3m/s<sup>2</sup>
  - » Volume Metric Accuracy to 8 Microns
- 1 - Brown & Sharp Global S
  - » EPS (Enhanced Productivity Series)
  - » 47.2" x 118.1" x 39.4"
  - » PC-DMIS CAD ++ Software
  - » Top acceleration up to 4.3m/s<sup>2</sup>
  - » Volume Metric Accuracy to 8 Microns

## Heat Treating Equipment

- Ipsen T2 Horizontal Bath Carburize Furnace
  - » 250 lb. load capacity
  - » 12"H x 13"W x 22"D work zone
  - » Integral oil quench
- Lindberg Horizontal Batch Tempering Oven
  - » 1300 lb. load capacity
  - » 18"H x 24"W x 36"D work zone
  - » Nitrogen atmosphere capability
  - » Programmable control of heating cycle
- Automatic programmable control of all processing parameters, including atmosphere control.

## Grinders

- Centerless Grinding