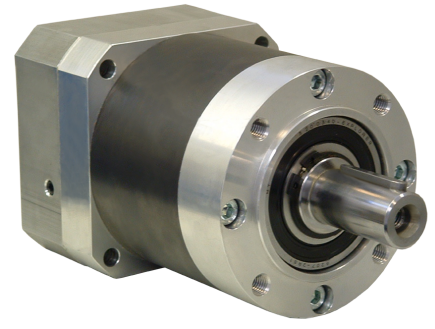


# GBPN-120 Series - Planetary Gearboxes

FEATURES

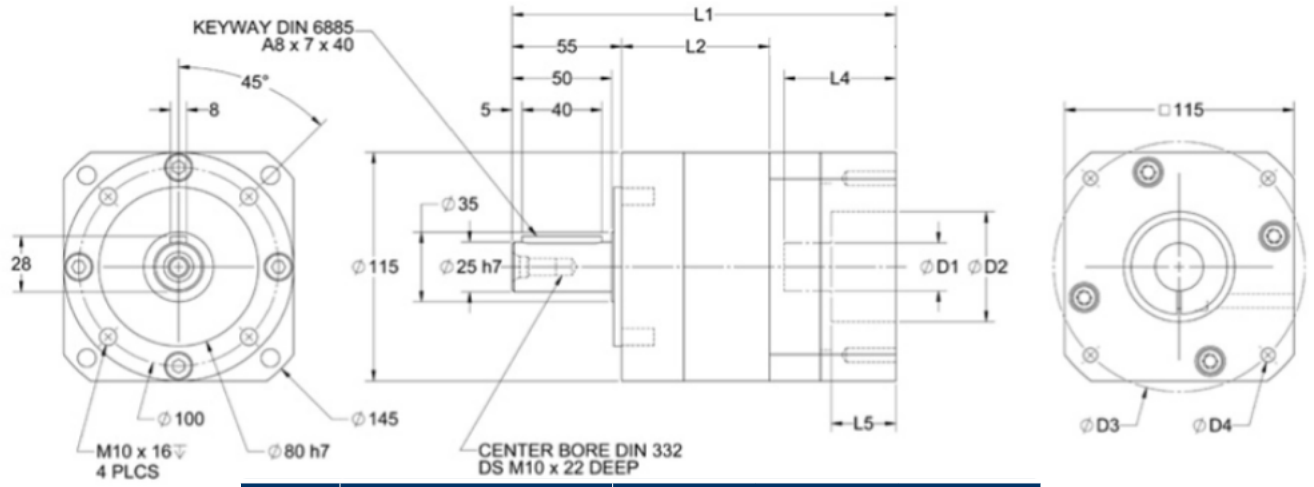
- **Compatible with NEMA Size 42 Motors**
- **Backlash as Low as 11 arc-min**
- **Gear Ratios from 3:1 to 512:1**
- **Long Design Life, Over 30,000 Hours**
- **Up to 96 Percent Efficiency**
- **Peak Input Speeds of Up to 6,500 RPM**
- **Lifetime Lubrication, High Durability**



DESCRIPTION

Planetary Gearboxes for NEMA 42 stepper motors, DC motors, or servo motors. The GBPN-120 Series Planetary Gearboxes were designed to be high quality and reliable, in-line planetary gears. They are available in many sizes with gear ratios ranging from 3:1 to 512:1. These planetary gearboxes come in a one-piece housing that produce consistent low backlash with permissible peak input speeds up to 6,500 RPM.

DIMENSIONS



Dimensions are in mm

| ITEM | DESCRIPTION               | MOTOR INTERFACE |           |           |
|------|---------------------------|-----------------|-----------|-----------|
|      |                           | AA421-750       | BLK42-748 | EM130-866 |
| D1   | Input Shaft Diameter      | 19.05           | 19.05     | 22        |
| L4   | Max Shaft Length          | 56              | 50        | 55        |
| D2   | Pilot Diameter            | 56              | 95        | 110       |
| L5   | Pilot Depth               | 4.65            | 5.4       | 10.4      |
| D3   | Mounting Bolt Hole Circle | 125.8           | 130       | 145       |
| D4   | Bolt Hole Size            | M8x20           | M8x20     | M8x20     |
| L1   | Overall Length (1-Stage)  | 192.5           | 186.5     | 191.5     |
| L1   | Overall Length (2-Stage)  | 219.5           | 213.5     | 218.5     |
| L1   | Overall Length (3-Stage)  | 246.5           | 240.5     | 245.5     |

- \*1-Stage Models: Gear Ratios 3-8
- \*2-Stage Models: Gear Ratios 12-40,64
- \*3-Stage Models: Gear Ratios 60,80-512

Note: The above input dimensions for the gearbox match Anaheim Automation's 42Y, 42K, 42N, BLK42, EMG-10, EMG-15, EMG-20, and EML-10 series motors. Custom gearboxes are available. If the above dimensions do not match your motor interface, please refer to the Gearbox Mounting Form below and provide information on the motor you would like this gearbox to be mounted to and send it to

L010437 applications@anaheimautomation.com or fax it to (714) 992-0471.

| Model #                | Gear Ratio | Compatible NEMA Frame Size | Rated Output Torque (in-lbs) | Peak Input Speed (RPM) | Backlash (arcmin) | Efficiency (%) | Running Noise (dB) | L2 Length (mm) | Weight (lbs) |
|------------------------|------------|----------------------------|------------------------------|------------------------|-------------------|----------------|--------------------|----------------|--------------|
| GBPN-1201-003-xxxx-yyy | 3          | 42                         | 1018                         | 6500                   | <7                | 96             | 65                 | 74             | 13.2         |
| GBPN-1201-004-xxxx-yyy | 4          | 42                         | 1372                         | 6500                   | <7                | 96             | 65                 | 74             | 13.2         |
| GBPN-1201-005-xxxx-yyy | 5          | 42                         | 1726                         | 6500                   | <7                | 96             | 65                 | 74             | 13.2         |
| GBPN-1201-008-xxxx-yyy | 8          | 42                         | 1062                         | 6500                   | <7                | 96             | 65                 | 74             | 13.2         |
| GBPN-1202-009-xxxx-yyy | 9          | 42                         | 1859                         | 6500                   | <9                | 94             | 65                 | 101            | 17.6         |
| GBPN-1202-012-xxxx-yyy | 12         | 42                         | 2301                         | 6500                   | <9                | 94             | 65                 | 101            | 17.6         |
| GBPN-1202-015-xxxx-yyy | 15         | 42                         | 2036                         | 6500                   | <9                | 94             | 65                 | 101            | 17.6         |
| GBPN-1202-016-xxxx-yyy | 16         | 42                         | 2301                         | 6500                   | <9                | 94             | 65                 | 101            | 17.6         |
| GBPN-1202-020-xxxx-yyy | 20         | 42                         | 2301                         | 6500                   | <9                | 94             | 65                 | 101            | 17.6         |
| GBPN-1202-025-xxxx-yyy | 25         | 42                         | 2036                         | 6500                   | <9                | 94             | 65                 | 101            | 17.6         |
| GBPN-1202-032-xxxx-yyy | 32         | 42                         | 2301                         | 6500                   | <9                | 94             | 65                 | 101            | 17.6         |
| GBPN-1202-040-xxxx-yyy | 40         | 42                         | 2036                         | 6500                   | <9                | 94             | 65                 | 101            | 17.6         |
| GBPN-1202-064-xxxx-yyy | 64         | 42                         | 1062                         | 6500                   | <9                | 94             | 65                 | 101            | 17.6         |
| GBPN-1203-060-xxxx-yyy | 60         | 42                         | 2301                         | 6500                   | <11               | 90             | 65                 | 128            | 22.0         |
| GBPN-1203-080-xxxx-yyy | 80         | 42                         | 2301                         | 6500                   | <11               | 90             | 65                 | 128            | 22.0         |
| GBPN-1203-100-xxxx-yyy | 100        | 42                         | 2301                         | 6500                   | <11               | 90             | 65                 | 128            | 22.0         |
| GBPN-1203-110-xxxx-yyy | 120        | 42                         | 2036                         | 6500                   | <11               | 90             | 65                 | 128            | 22.0         |
| GBPN-1203-160-xxxx-yyy | 150        | 42                         | 2301                         | 6500                   | <11               | 90             | 65                 | 128            | 22.0         |
| GBPN-1203-200-xxxx-yyy | 200        | 42                         | 2036                         | 6500                   | <11               | 90             | 65                 | 128            | 22.0         |
| GBPN-1203-256-xxxx-yyy | 256        | 42                         | 2301                         | 6500                   | <11               | 90             | 65                 | 128            | 22.0         |
| GBPN-1203-320-xxxx-yyy | 320        | 42                         | 2036                         | 6500                   | <11               | 90             | 65                 | 128            | 22.0         |
| GBPN-1203-512-xxxx-yyy | 512        | 42                         | 1250                         | 6500                   | <11               | 90             | 65                 | 128            | 22.0         |

Part numbers are based on the specifications of the motor being matched to the gearbox.

-xxxxx denotes motor pilot, -yyy denotes input shaft diameter.

For more information contact an Anaheim Automation Applications Engineer for assistance.

|                                      |  |                                     |                       |
|--------------------------------------|--|-------------------------------------|-----------------------|
| *Radial Load for 20,000 hr lifetime: | 393 lbs-force (1750N)  | *Axial Load for 20,000 hr lifetime: | 562 lbs-force (2500N) |
| *Radial Load for 30,000 hr lifetime: | 337 lbs-force (1500N)  | *Axial Load for 30,000 hr lifetime: | 472 lbs-force (2100N) |
| Operating Temperature:               | -25° to 90°C   | Running Noise:                      | 65 dB                 |
| Torsional Stiffness:                 | 1 Stage: 106 in-lb/arc-min;<br>2 Stage: 115 in-lb/arc-min;<br>3 Stage: 106 in-lb/arc-min | IP Rating:                          | IP54                  |
| Mounting Position:                   | Any  | Lubrication:                        | Lifetime              |

\* Values reference output shaft speed  $n_2 = 100\text{RPM}$ , 100% duty cycle, application factor of 1, and  $T = 30^\circ\text{C}$  (86F) ambient temperature. Measured at the middle of the shaft.



# Gearbox Application Sheet

Please return via fax or email: (714) 992-0471, applications@anaheimautomation.com

Name: \_\_\_\_\_ E-Mail: \_\_\_\_\_

Company: \_\_\_\_\_ Phone: \_\_\_\_\_

Address: \_\_\_\_\_ Fax: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Current Quantity Requirements: \_\_\_\_\_

Estimated Annual Requirements: \_\_\_\_\_

## Motor Specifications:

Units:  mm  in

Bolt Circle Diameter (D1): \_\_\_\_\_

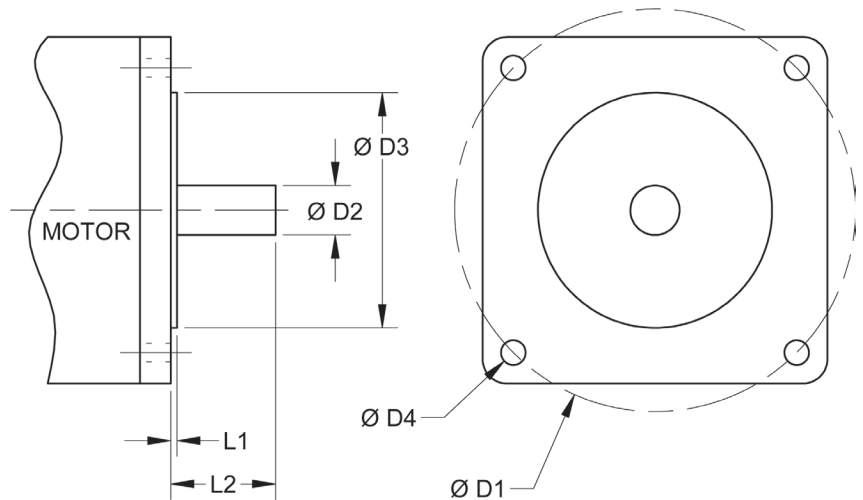
Shaft Diameter (D2): \_\_\_\_\_

Pilot Diameter (D3): \_\_\_\_\_

Hole Diameter (D4): \_\_\_\_\_

Pilot Thickness (L1): \_\_\_\_\_

Shaft Length (L2): \_\_\_\_\_



## Gearbox Specifications:

Gearbox Part Number: \_\_\_\_\_

*(Please provide an Anaheim Automation Gearbox Part Number if Available)*

Please provide any additional information below:

