

CITIZEN

Miyano

**BNA42**

Fixed Headstock Type CNC Automatic Lathe



# Machine Specifications

| Items  | BNA-42S2                    |  | BNA-42DHY3              |        |
|--|-----------------------------|--|-------------------------|--------|
| Machining capacity   |                             |  |                         |        |
| Max. work length   | 100 mm                      |  |                         |        |
| Max. machining diameter of bar work  | SP1                         | 42 mm Dia.   |                         | 42mm   |
|  | SP2                         | 34 mm Dia.   |                         |        |
| Slide stroke   |                             |  |                         |        |
| Turret slide stroke  | X1 axis                     | 135 mm   |                         | 140 mm |
|  | Z1 axis                     | 235 mm   |                         |        |
|  | Y1 axis                     | —  |                         |        |
| Spindle slide stroke   | X2 axis                     | —  |                         | 140 mm |
|  | Z2 axis                     | —  |                         |        |
|  | B axis                      | 310mm  |                         |        |
| Spindle  |                             |  |                         |        |
| Number of spindle  | 2                           |  |                         |        |
| Spindle speed range  | SP1                         | 60- 6,000 min <sup>-1</sup>                            |                         | —      |
|  | SP2                         | 50- 5,000 min <sup>-1</sup>                            |                         |        |
| Inner diameter of draw tube  | SP1                         | 43 mm Dia.   |                         | —      |
|  | SP2                         | 30 mm Dia.   |                         |        |
| Collet chuck type  | SP1                         | Hardinge S20, DIN173E, B&S#22D, JPN34, Hainbuch        |                         | —      |
|  | SP2                         | DIN173E, B&S#22D, JPN                                  |                         |        |
| Power chuck type   | SP1                         | 5" thru-hole chuck                                     |                         | —      |
|  | SP2                         | —  |                         |        |
| Turret   |                             |  |                         |        |
| Number of turret   | 1                           |  | 2                       |        |
| Type of turret   | HD1                         | 8 ST.  |                         | 6 ST.  |
|  | HD2                         | —  |                         |        |
| Shank height of square turning tool  | 20 mm Sq.                   |  |                         |        |
| Diameter of drill shank  | 25 mm Dia.                  |  |                         |        |
| Revolving tools  |                             |  |                         |        |
| Number of revolving tools  | Max.8                       |  |                         |        |
| Type of revolving tools  | Single Clutch               |  |                         |        |
| Tool spindle speed range   | 50- 5,000 min <sup>-1</sup> |  |                         |        |
| Machining capacity   | Drill                       | Max. 10 mmDia.   |                         | —      |
|  | Tap                         | Max. M6×1 S45C (M8×1.25 Spiral tap and Point tap only) |                         |        |
| Feed rate  |                             |  |                         |        |
| Rapid Feed rate  | X1 axis                     | 20 m/ min  |                         | —      |
|  | Z1 axis                     | 20 m/ min  |                         |        |
|  | Y1 axis                     | —  |                         |        |
|  | X2 axis                     | —  |                         |        |
|  | Z2 axis                     | —  |                         |        |
|  | Baxis                       | 20 m/ min  |                         |        |
| Motors   |                             |  |                         |        |
| Spindle drive  | SP1(Cs)                     | 7.5/ 5.5 kw (15min./ cont)                             |                         | —      |
|  | SP2(Cs)                     | 5.5/ 3.7 kw (15min./ cont)                             |                         |        |
| Revolving tool drive   | 2.8/ 1.0 kw                 |  |                         |        |
| Coolant pump   | 0.18 kw                     |  |                         |        |
| High pressure coolant drive  | 1.0/ 0.06 kw (60/ 50Hz)     |  | 1.0/ 0.75 kw (60/ 50Hz) |        |
| Power supply   |                             |  |                         |        |
| Capacity   | 28 KVA                      |  | 30KVA                   |        |
| Air supply   | 0.5 MPa                     |  |                         |        |
| Fuse   | 100 A                       |  |                         |        |
| Tank capacity  |                             |  |                         |        |
| Hydraulic oil tank capacity  | 7L                          |  | 18L                     |        |
| Lubricating oil tank capacity  | 2L                          |  |                         |        |
| Coolant tank capacity  | 165L                        |  | 175L                    |        |
| Machine dimensions   |                             |  |                         |        |
| Machine height   | 1,660 mm                    |  | 1,700mm                 |        |
| Floor space  | W 2,150 × D1,290 mm         |  | W 2,350 × D1,454 mm     |        |
| Machine weight   | 2,800 kg                    |  | 3,100 kg                |        |
| Optional accessories   |                             |  |                         |        |
| Spindle air blow, Spindle Brake, High pressure coolant, Coolant level switch, Signal tower, Coolant mistcollector, Automatic power shut-off, Chip conveyor, Chip box, Parts catcher, Parts conveyor, RS-232C, 100V |                             |  |                         |        |

| NC Specification   | MIYANO -FANUC 0i-TD  |
|--|--|
| Controlled axis  | X, Z, B axis (BNA-S2)<br>X1, Z1, Y, X2, Z2 axis (BNA-DHY2)   |
| Min. input increment   | 0.001mm (Diameter for X axis), 0.001deg.   |
| Min. output increment  | X axis: 0.0005 mm, Z axis: 0.001 mm  |
| Parts program storage capacity   | 1Mbyte (2560 m Tape length)  |
| Spindle function   | Spindle speed S4-digits,<br>Directly specified (G97),<br>Constant Cutting speed control (G96)  |
| Cutting feed rate  | F3.4 digit per revolution,<br>F6 digit per minute, directly specified  |
| Cutting feed rate override   | 0- 150% (in 10% increments)  |
| Rapid traverse rate  | X, Z, B axis : 20m/ min (S2)<br>X1, Z1, Z2 axis: 20m/ min<br>Y, X2 axis: 12m/ min (DHY2)   |
| Interpolation  | G01, G02, G03  |
| Threading  | G32, G92   |
| Canned cycle   | G90, G92, G94  |
| Work coordinate setting  | Automatic Setting, 64 work coordinate setting<br>by the tool position memory and the geometry offset.  |
| Tool selection and work coordinate settings,<br>and tool wear compensation | Tool selection and work coordinate settings are selected<br>from 1-64 by T AABCC at the specified position<br>for each turret tool wear compensation is selected by BB.  |
| Direct input of tool position  | by measured MDI  |
| Input/Output interface   | PC card slot   |
| Automatic operation  | 1 cycle operation/Continuous operation, Single block,<br>Block delete, Machine lock, Optional block skip,<br>Dry run feed hold   |
| Others   | 8.4" color LCD,<br>No of registered programs: 800,<br>Decimal point input, Manual pulse generator,<br>Memory protect, AC digital servo motor, etc.   |
| NC standard functions  | Chamfering/ Corner R,<br>Tool nose R compensation,<br>Constant peripheral speed (G96),<br>Background editing,<br>Programmable data input (G10),<br>Operating time/ Parts No. display,<br>Multiple repetitive canned cycle (G70 -G76)<br>Rigid tap function (Main & sub),<br>Cylindrical interpolation, Custom macro B,<br>Drilling canned cycle (G80 -G86)<br>Tool life management system. |

## Environmental Performance Information

|                                       |                             | Model   | BNA-42DHY3                                       |
|---------------------------------------|-----------------------------|---|--|
| Basic Information                     | Energy consumption          | Supply voltage  | AC 200V ±10%                                     |
|                                       |                             | Electrical power requirement  | 28 KVA   |
|                                       |                             | Required pneumatic pressure   | 0.5 MPa  |
| Environmental Performance Information | Power consumption           | Standby power <sup>*1</sup>   | 0.667 kW<br>(on emergency stop released)         |
|                                       |                             | Power consumption with model workpiece <sup>*2</sup>  | 0.168 kWh/cycle                                  |
|                                       |                             | Power consumption value above converted to a CO2 value <sup>*3</sup>  | 86.184 g/cycle                                   |
|                                       | Air consumption             | Required air flow rate  | 150 NL/ min<br>(when using air blow)             |
|                                       | Lubricating oil consumption | At power ON   | 3 cc/15 min                                      |
| Approach to Environmental Issues      | Noise level                 | Value measured based on JIS   | 75 dB  |
|                                       | Recycling                   | Indication of the material names of plastic parts   | Detailed in the Instruction Manual <sup>*4</sup> |
|                                       | Environmental management    | We pursue "Green Procurement", whereby we make our purchases while prioritizing goods and services that show consideration for the environment. |  |

- <sup>\*1</sup> This is the standby power in the idle stop mode (a function that turns servomotor excitation off when it is not necessary, for example during program editing).  
<sup>\*2</sup> This is the power consumption in program operation (when not cutting) for one of our standard test pieces, shown for the purpose of comparing the environmental performance with that of existing models.  
<sup>\*3</sup> This is the value converted in accordance with the CHUBU Electric Power CO2 emissions coefficient (factual emissions coefficient) for 2020 as published by the Ministry of the Environment.  
<sup>\*4</sup> If polyvinyl chloride (PVC) and fluorine resin are not processed correctly, they can generate harmful gases. When recycling these materials, commission a contractor that is capable of processing them appropriately.

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|--------------------------|--|---------------------|
| <b>JAPAN</b>             | CITIZEN MACHINERY CO., LTD.<br>4107-6 Miyota, Miyota-machi, Kitasaku-gun, Nagano-ken, 389-0606, JAPAN  | TEL.81-267-32-5901  |
| <b>SOUTH ASIA/ KOREA</b> | CITIZEN MACHINERY CO., LTD.<br>4107-6 Miyota, Miyota-machi, Kitasaku-gun, Nagano-ken, 389-0606, JAPAN  | TEL.81-267-32-5961  |
| <b>ASEAN</b>             | CITIZEN MACHINERY ASIA CO., LTD.<br>199, Mu 1, Phahon Yothin Road, Sanap Tuep Sub-district, Wang Noi District, Phra Nakhon Si Ayutthaya Province 13170, Thailand | TEL.66-35-90-2640   |
| <b>TAIWAN</b>            | CINCOM MIYANO TAIWAN CO., LTD<br>10F1, No. 174, Fuh Sing N. Rd., Taipei, TAIWAN, R.O.C.  | TEL.886-2-2715-0598 |
| <b>CHINA</b>             | CITIZEN (CHINA) PRECISION MACHINERY CO., LTD.<br>3010, SICHOU ROAD OF ZHOUCUN, ZIBO, SHANDONG, P.R.CHINA   | TEL.86-533-6150560  |
| <b>GERMANY</b>           | CITIZEN MACHINERY EUROPE GmbH.<br>Mettinger Strasse 11, D-73728 Esslingen GERMANY  | TEL.49-711-3906-100 |
| <b>UK</b>                | CITIZEN MACHINERY UK Ltd.<br>1 Park Avenue, Bushey, WD23 2DA, UK   | TEL.44-1923-691500  |
| <b>ITALIA</b>            | CITIZEN MACCHINE ITALIA s.r.l.<br>Via Guglielmo Marconi 47 - 24040 Comun Nuovo (BG), ITALY   | TEL.39-035-877738   |
| <b>FRANCE</b>            | HESTIKA FRANCE S.A.S.<br>1385 Avenue du Môle Z.A.E des Lacs 3, 74130 AYZE, FRANCE  | TEL.33-4-5098-5269  |
| <b>SPAIN</b>             | EGASCA, S.A.<br>Poligono Industrial Erisono 2, 20600 Eibar (Gipuzkoa), SPAIN   | TEL.34-943-200300   |
| <b>AMERICA</b>           | MARUBENI CITIZEN-CINCOM INC.<br>Headquarters(NJ) 40 Boroline Road Allendale, NJ 07401 U.S.A.   | TEL.1-201-818-0100  |

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