

Specifications: 4-axis (DHP 50, DHP 80)

		DHP 50	DHP 80
Linear axes			
Travel X × Y × Z	mm	700 × 700 × 700	1,200 × 1,100 × 1,100
Distance from pallet surface to spindle Y-axis center (Min./Max.)	mm	20 - 720	40 - 1,140
Distance from table center to spindle Z-axis gauge plane (Min./Max.)	mm	150 - 850	220 - 1,320
Feedrate	mm/min	0 - 20,000	0 - 10,000
Rapid traverse rate	mm/min	60,000	40,000
Thrust force	daN	700	1,500
Max. acceleration	m/s ²	2.5 - 5.3	1.2 - 2.7
Bidirectional positioning accuracy B, according to ISO 230-2	nm	990	990
Repeatability of positioning R, according to ISO 230-2	nm	900	900
Measuring resolution	nm	50	50
Least command increment	nm	100	100
Rotary axes			
Min. table indexing angle	° x nb	0.0001 × 3,600,000	0.0001 × 3,600,000
Feedrate	min ⁻¹	0 - 20	0 - 10
Rapid traverse rate	min ⁻¹	100	30
Acceleration	rad/s ²	13	7.5
Max. torque (cont./rating)	N · m	775 / 1,085	1,040 / 1,540
Max. clamping force	N · m	4,500	6,750
Bidirectional positioning accuracy A, according to ISO 230-2	arc/sec	3	3
Repeatability of positioning R, according to ISO 230-2	arc/sec	1	1
Measuring resolution	arc/sec	0.02	0.02
Spindle			
Spindle drive motor	kW	24/25	34/39
Max. spindle speed	min ⁻¹	12,000	12,000
Type of spindle taper hole		SK 40 Big Plus [HSCA 63]	SK 50 Big Plus [HSCA 100]
Sensor and continuous axial compensation system		Standard	Standard
Vibration control device		Standard	Standard
Automatic Pallet Changer (APC)			
Table working surface	mm	500 × 500 [500 × 630]	800 × 800 [800 × 1,000]
Number of pallets		2	2
Table surface configuration		Tapped holes or T slots	Tapped holes or T slots
Reference slots	mm	14-H7	18-H8
Central reference hole Ø	mm	50-H6	50-H6
Table loading capacity	kg	500	1,500
Max. workpiece swing diameter	mm	700	1,200
Max. workpiece height	mm	800	1,200
Number of stations, manual indexing angle	nr. x °	4 × 90°	4 × 90°
Automatic Tool Changer (ATC)			
Number of pockets		108 [60] [218]* ¹	99 [60] [114 - 264]* ²
Max. tool diameter (with adjacent tools)	mm	95 / 100 / 95	125 / 135 / 125
Max. tool diameter (without adjacent tools)	mm	190 / 140 / 190	350 / 190 / 350
Max. tool length	mm	350 / 300 / 350	400 and 630 / 400 / 150 - 630
Max. tool mass	kg	10 / 8 / 10	25 / 20 / 25
Tool changing time	s	5 - 8* ³	6 - 13* ³
Machine size			
Total floor space (width × depth)	mm	6,100 × 6,150	7,000 × 10,000
Total height	mm	3,100	4,100
Machine mass	kg	15,200	25,000
Numerical control unit		GE FANUC	GE FANUC

[] Option

*1 Standard 108 tools and Option 218-tool magazine: Rack type / Option 60-tool magazine: Chain type

*2 Standard 99 tools and Option 114 to 264-tool magazine: Rack type / Option 60-tool magazine: Chain type

■ Rack type magazine variations for DHP 80

Number of Tool Pots		99	[114]	[129]	[204]	[234]	[264]
Max. Length Tools	150 mm	—	—	30 pots	30 pots	—	60 pots
	200 mm	—	60 pots	—	60 pots	—	120 pots
	400 mm	60 pots	15 pots	60 pots	15 pots	120 pots	30 pots
	630 mm	39 pots	39 pots	24 pots	24 pots	84 pots	54 pots

*3 These values can change depending upon the ATC.

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Standard and optional features: 4-axis (DHP 50, DHP 80)

		DHP 50	DHP 80
Through-spindle coolant			
Manual pressure adjustment	MPa	0 - 7	0 - 7
Flow at 70 bars	L/min	20	20
Options: - 50 Hz or 60 Hz			
- with exchangeable cartridge filters	µm	40	40
- with self-cleaning filter (option)	µm	40	40
Coolant cooling unit			
Power heat exchanger	W	4,500	4,500
Options: - 50Hz or 60Hz			
Coolant system			
Options: - 50Hz or 60Hz			
Max. ambient temperature	°C	32	32
Temperature provided by the unit	°C	12 ±1	12 ±1
Refrigerator motor	kW	16.5	20.3
Flow	L/min	60	80
Pressure	MPa	0.25	0.2
Air extraction and filtering system (option)			
Double centrifuge, flow	m³/h	2,000	3,000
Oil separator (oil skimmer)			
Only when using emulsion			
Oil-mist collector (option)			
Additional unit when using oil-based coolant			
Electrostatic filter, flow	m³/h	2,000	3,000
Rotoclear (option)			
Absolute diameter	mm	300	300
See-through surface	cm²	230	230
Rotation speed	min⁻¹	2,300	2,300
3D probe to determine the workpiece zero point (option)			
Repeatability	µm	±1	±1
Tool breakage detection function (option)			
Visible red-light laser, class 2 according to IEC825	type	670 nm / < 1 mW	670 nm / < 1 mW
Dynamic tool measuring system with tool breakage detection function (option)			

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Specifications: 5-axis (DHP 50, DHP 80)

		DHP 50	DHP 80
Linear axes			
Travel X × Y × Z	mm	700 × 700 × 700	1,200 × 1,100 × 1,150
Distance from pallet surface to spindle Y-axis center (Min./Max.)	mm	-250 to +450	-310 to +790
Distance from table center to spindle Z-axis gauge plane (Min./Max.)	mm	150 - 850	175 - 1,325
Feedrate	mm/min	0 - 20,000	0 - 10,000
Rapid traverse rate	mm/min	60,000	40,000
Thrust force	daN	700	1,500
Max. acceleration	m/s ²	2.5 - 5.3	1.2 - 2.7
Bidirectional positioning accuracy B, according to ISO 230-2	nm	990	990
Repeatability of positioning R, according to ISO 230-2	nm	900	900
Measuring resolution	nm	50	50
Least command increment	nm	100	100
Rotary axes			
Min. table indexing angle	° x nb	0.0001 × 3,600,000	0.0001 × 3,600,000
Feedrate	min ⁻¹	0 - 20	0 - 15
Rapid traverse rate	min ⁻¹	50	30
Acceleration	rad/s ²	13	7.5
Max. torque (cont./rating)	N · m	775 / 1,085	1,180 / 1,760
Max. clamping force	N · m	900	1,300
Bidirectional positioning accuracy A, according to ISO 230-2	arc/sec	3	3
Repeatability of positioning R, according to ISO 230-2	arc/sec	1	1
Measuring resolution	arc/sec	0.02	0.02
Tilting table A-axis			
Table indexing angle	°	180 (+45 to -135)	180 (+45 to -135)
Min. table indexing angle	° x nb	0.0001 × 1,800,000	0.0001 × 1,800,000
Max. clamping force	Nm	5,000	5,000
Pallet working surface	mm	500 × 500	630 × 630 or 630 × Ø800
Horizontal loading capacity (A = 0°)	kg	500	850
Vertical loading capacity (A = -90°)	Nm	2,500	4,000
Feedrate	min ⁻¹	0 - 5	0 - 5
Rapid traverse rate	min ⁻¹	10	7
Acceleration	rad/s ²	2.6	1.75
Max. torque	N · m	700 - 2,500	1,200 - 4,000
Bidirectional positioning accuracy A, according to ISO 230-2	arc/sec	3	3
Repeatability of positioning R, according to ISO 230-2	arc/sec	1.5	1.5
Measuring resolution	arc/sec	0.02	0.02
Max. workpiece swing diameter	mm	650	900 / 1,030
Spindle			
Spindle drive motor	kW	24	34
Max. spindle speed	min ⁻¹	12,000	12,000
Type of spindle taper hole		SK 40 Big Plus [HSCA 63]	SK 50 Big Plus [HSCA 100]
Sensor and continuous axial compensation system		Standard	Standard
Vibration control device		Standard	Standard
Automatic Pallet Changer (APC)			
Table working surface	mm	500 × 500	630 × 630
Number of pallets		2	2
Table surface configuration		Tapped holes or T slots	Tapped holes or T slots
Reference slots	mm	14-H7	18-H8
Central reference hole Ø	mm	50-H6	50-H6
Table loading capacity	kg	500	800
Max. workpiece swing diameter	mm	650	900/1,030
Max. workpiece height	mm	500	850
Automatic Tool Changer (ATC)			
Number of pockets		108 [60] [218]*1	99 [60] [114 - 264]*2
Max. tool diameter (with adjacent tools)	mm	95 / 100 / 95	125 / 135 / 125
Max. tool diameter (without adjacent tools)	mm	190 / 140 / 190	350 / 190 / 350
Max. tool length	mm	350 / 300 / 350	400 and 630 / 400 / 150 - 630
Max. tool mass	kg	10 / 8 / 10	25 / 20 / 25
Tool changing time	s	5 - 8*3	6 - 13*3
Machine size			
Total floor space (width × depth)	mm	6,100 × 6,150	7,000 × 10,000
Total height	mm	3,100	4,100
Machine mass	kg	15,200	25,000
Numerical control unit		GE FANUC	GE FANUC

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		DHP 50	DHP 80
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Manual pressure adjustment	MPa	0 - 7	0 - 7
Flow at 70 bars	L/min	20	20
Options: - 50 Hz or 60 Hz			
- with exchangeable cartridge filters	µm	40	40
- with self-cleaning filter (option)	µm	40	40
Coolant cooling unit			
Power heat exchanger	W	4,500	4,500
Options: - 50Hz or 60Hz			
Coolant system			
Options: - 50Hz or 60Hz			
Max. ambient temperature	°C	32	32
Temperature provided by the unit	°C	12 ±1	12 ±1
Refrigerator motor	kW	16.5	20.3
Flow	L/min	60	80
Pressure	MPa	0.25	0.2
Air extraction and filtering system (option)			
Double centrifuge, flow	m³/h	2,000	3,000
Oil separator (oil skimmer)			
Only when using emulsion			
Oil-mist collector (option)			
Additional unit when using oil-based coolant			
Electrostatic filter, flow	m³/h	2,000	3,000
Rotoclear (option)			
Absolute diameter	mm	300	300
See-through surface	cm²	230	230
Rotation speed	min⁻¹	2,300	2,300
3D probe to determine the workpiece zero point (option)			
Repeatability	µm	±1	±1
Tool breakage detection function (option)			
Visible red-light laser, class 2 according to IEC825	type	670 nm / < 1 mW	670 nm / < 1 mW
Dynamic tool measuring system with tool breakage detection function (option)			

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