3. G403/G40L/G423/G42L/G404/G424 Memory requirement table (2)

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [1/20] (2)

Spec	Item	SRAM	FROM	DRAM
H510#B10 H510#B11 H510#B20 H510#B21 H510#B30 H510#B31	Automatic data backup 1 backup data (SRAM data) Automatic data backup 1 backup data (SRAM+Part program) Automatic data backup 2 backup data (SRAM data) Automatic data backup 2 backup data (SRAM+Part program) Automatic data backup 3 backup data (SRAM data) Automatic data backup 3 backup data (SRAM+Part program) (Note 1)	-	(F1)	-
H990#32K	PMC Ladder function 32,000 steps	-	1	384(*1)
H990#64K	PMC Ladder function 64,000 steps	-	4	768(*1)
H990#100K	PMC Ladder function 100,000 steps	-	6	1024(*1)
H990#300K	PMC Ladder function 300,000 steps	-	22	3072
J398	High-speed HRV3 function	-	-	-
J399	High-speed HRV4 function	-	-	-
J630	Continuous dressing	-	-	-
J631	Infeed control	-	-	-
J633	Wheel wear compensation	-	-	-
J650	Multi-language display Danish	-	-	-
J651	Rigid tap by manual handle	-	-	-
J652	Hypothetical axis interpolation	-	-	-
J663	High-speed cycle machining retract function	-	-	-
J664	Retraction for Rigid tapping	1	-	-
J667	Manual numerical command	-	-	-
J668	Tool length/work zero point measurement	-	-	-
J669	NURBS interpolation	-	-	-
J670	Linear scale I/F with absolute address reference mark	-	-	-
J674	Power Mate CNC manager	-	-	-
J678	Multi-language display Portuguese	-	-	-
J682	Touch panel control	1	-	-
J685	External touch panel interface	-	-	-
J686	Direct input of offset value measured B for 2 spindle lathe	-	-	-

For (F1) refer to Table 1-5-1.

(Note 1) When Part program storage size 32Mbyte (R365) is specified, H510#B31 cannot be specified. (2)

(*1) When R856#1M or R856#2M is not specified, this value becomes 0.

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [2/20] (2)

Spec	Item	SRAM	FROM	DRAM
J690	Automatic alteration of tool position compensation	-	-	-
J692	FL-net function	12	-	- (2)
J693	Positioning by optimum acceleration	-	-	-
J696	Skip function for EGB axis	-	-	-
J698	Twin-table control	-	-	-
J704	Dual position feedback	-	-	-
J705	High Precision Learning Control B	-	40	5120
J706	High Precision Learning Control A	-	40	5120
J976	Learning Memory expanded function	-	-	-
R510	Learning Control for Parts Cutting A	-	40	5120
R539	Learning Control for Parts Cutting B	-	6	768
R720	Learning memory size 10Mbyte	-	40	5120
J707	Chopping	-	-	-
J708	Polygon machining with two spindles	-	-	-
J710	Involute interpolation	-	-	-
J711	Exponential interpolation	-	-	-
J713	3-dimensional coordinate system conversion	-	-	-
J715	Inverse time feed	-	-	-
J718	Unexpected disturbance torque detection function	-	-	-
J720	Chuck and tail stock barrier	-	-	-
J727	3-dimensional tool compensation	-	-	-
J728	Data Server buffer mode	-	-	-
J729	Reference point setting with mechanical stopper	-	-	-
J730	Retrace	-	-	-
R529	Reverse motion function for restart Either one	64	-	32
J998	Manual Handle Retrace (Note 1)	-	-	5120
R606	Manual handle retrace function for multi path	-	-	5120
J731	Circular thread cutting	-	-	-
J734	Macro executor + C-language executor	244	-	-
J735	Motor revolution detect signal output	-	-	-
J736	C-language executor additional SRAM 256KB	384	-	-

(Note 1) However, Retrace and Reverse motion function for restart can be specified at the same time.

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [3/20] (2)

Spec	Item	SRAM	FROM	DRAM
J738#512K	Custom software size 512Kbyte	-	4	512
J738#2M	(Note 1/Note 2) 2Mbyte Either one	-	16	2048
J738#4M	4Mbyte	-	32	4096
J738#6M	6Mbyte	-	48	6144
J738#8M	8Mbyte	-	64	8192
J738#12M	12Mbyte	-	96	12288
J738#16M	16Mbyte	-	128	16384
J739#256K	Extended P-code variables size 256Kbyte	512	-	-
J739#512K	512Kbyte	1024	-	-
J739#1M	1Mbyte	2048	-	-
J743	Rotary axis control	-	-	-
J745	High-speed cycle cutting additional variables A	-	3	-
J746	High-speed cycle cutting additional variables B	-	5	-
S640	High-speed cycle cutting additional variables C	-	13	-
R513	High-speed cycle cutting additional variables D	-	31	-
R469	High-speed cycle cutting additional variables E	-	46	-
J747	Straightness compensation	-	-	-
J749	Stored limit check before move	-	-	-
J760	Dynamic graphic display function	-	-	5120(*1)
J770	Continuous high–speed skip	-	-	-
J774	Manual linear/circular interpolation	-	-	-
J777	Smooth interpolation	-	-	-
J778	Key and program encryption	-	-	-
J779	Electronic gear box	-	-	-
J780	Conical/spiral interpolation	-	-	-
J786	Temporary absolute coordinate setting	-	-	-
J801	Controllable axes expansion	-	-	-
J803	Simultaneously controlled axes expansion	-	-	-

(Note 1) When FANUC PICTURE function (S879) or FANUC PICTURE function for non-touch panel display(S944) is specified, J738 cannot be specified.

(Note 2) The FROM size of Custom software size is the summation of the following files.

- Every files of Macro executor.
- Every files of C language executor (C language program files and C language data files)
- Customize definition files of Manual Guide i
- Custom screen data and FP driver files of FANUC PICTURE

(*1) When Graphic function (60VN) is not specified, this value becomes 0.

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [4/20] (2)

Spec	Item	SRAM	FROM	DRAM
J804	Axis control by PMC	-	-	-
J805	Increment system C	-	-	-
J807	Control axis detach	-	-	-
J809	Speed control with acceleration in circular interpolation	-	-	-
J810	2nd feedrate override	-	-	-
J812	Single direction positioning	-	-	-
J813	Normal direction control	-	-	-
J815	Polar coordinate interpolation	-	-	-
J816	Cylindrical interpolation	-	-	-
J817	Polygon turning	-	-	-
J818	Polar coordinate command	-	-	-
J819	Helical interpolation	-	-	-
J820	F1-digit feed	-	-	-
J822	Index table indexing	-	-	-
J823	Tool retract and recover	-	-	-
J824	Thread cutting, synchronous cutting	-	-	-
J825	Thread cutting retract	-	-	-
J827	Variable lead thread cutting	-	-	-
J828	Rigid tap	-	-	-
J829	Bell-shaped acceleration/deceleration after cutting feed interpolation	-	-	-
J830	3rd/4th reference position return	-	-	-
J831	Floating reference position return	-	-	-
J832	High-speed cycle machining	-	2	-
J834	Balanced cutting	-	-	-
J835	Manual handle feed 1-unit	-	-	-
J836	Manual handle feed 2/3-units	-	-	-
J837	Handle interruption	-	-	-
J838	Program restart	-	-	-
J840	Stored stroke check 2,3	-	-	-
J841	Stored pitch error compensation	6	-	-
J842	External deceleration	-	-	-
J843	Axis synchronous control	-	-	-
J844	Sequence number comparison and stop	-	-	-

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [5/20] (2)

Spec	Item	SRAM	FROM	DRAM
J845	Stroke limit external setting	-	-	-
J846	Position switch	-	-	-
J847	Feed stop	-	-	-
J848	High-speed skip	-	-	-
J849	Multi-step skip	-	-	-
J850	Spindle serial output	-	-	-
J851	Spindle positioning	-	-	-
J852	Cs contouring control	-	-	-
J853	Spindle orientation	-	-	-
J854	Spindle output switching function	-	-	-
J855	Constant surface speed control	-	-	-
J856	Actual spindle speed output	-	-	-
J857	Spindle speed fluctuation detection	-	-	-
J858	Spindle synchronous control	-	-	-
J859	Multi spindle control	-	-	-
J860	Spindle analog output	-	-	-
J861	Extended Spindle orientation	-	-	-
J862	Extended spindle output switching function	-	-	-
J870	Direct drawing dimension programming	-	-	-
J871	G code system B/C	-	-	-
J873	Custom macro	18	-	-
J874	Interruption type custom macro	-	-	-
J875	Chamfering/Corner R	-	-	-
J876	Inch/metric conversion	-	-	-
J877	Multiple repetitive cycles	-	-	-
J879	Playback	-	-	-
J880	Programmable mirror image	-	-	-
J881	Mirror image for double turret	-	-	-
J882	Program format for FANUC Series 15	-	-	-
J884	Pattern Data Input	-	-	-
J887	Addition of custom macro common variables	-	-	-
J888	Macro executor	110	-	-
J889	Multiple repetitive cycles II	-	-	-
J890	Canned cycle	-	-	-

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [6/20] (2)

Spec	Item	SRAM	FROM	DRAM
J891	Automatic corner override	-	-	-
J892	Scaling	-	-	-
J893	Coordinate system rotation	-	-	-
J894	Workpiece coordinate system	-	-	-
J895 J919	Addition of workpiece coordinate system 48-pairs Addition of workpiece coordinate system 300-pairs	9 57	-	-
J896	Small-hole peck drilling cycle	-	-	-
J897	Figure copying	-	-	-
J900	RS232C interface (for 1ch)	-	-	-
J901	RS232C interface (for 2ch)	-	-	-
J902	External control of I/O device	-	-	-
J910	External tool offset	-	-	-
J911	External message	-	-	-
J912	External machine zero point shift	-	-	-
J913	External data input	-	-	-
J917	Workpiece coordinate system preset	-	-	-
J920	2nd auxiliary function	-	-	-
J922	M code group check	63	-	-
J924	Arbitrary angular axis control	-	-	-

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [7/20] (2)

Spec	Item	SRAM	FROM	DRAM	
J925	Tool offset pairs 64-pairs	(S1)	-	-	
J926	Tool offset pairs 99-pairs				
J927	Tool offset pairs 200-pairs				
J928	Tool offset pairs 400-pairs				
S614	Tool offset pairs 499-pairs				
J721	Tool offset pairs 999-pairs				
S622	Tool offset pairs 2000-pairs				
S616	Tool offset memory B				
J937	Tool offset memory C				
J931	Tool geometry/wear compensation				
J839	Interference check for each path	(S2)	-	-	
J930	Tool radius - Tool nose radius compensation	(S3)	-	-	
J934	Y-axis offset	(S4)	-	-	
J980	2nd Geometry Tool Offset	(S5)	-	-	
S996(*1)	Cutting Point Command	(S6)	-	-	
R517	4th/5th axis offset	(S7)	-	-	
J933	Direct input of offset value measured B	-	-	-	
J935	Tool life management	37	-	-	
J936	Addition of tool pairs for tool life management	102	-	-	
J944	Part program storage size 128Kbyte	-	2	-	(2)
J945	Part program storage size 256Kbyte	-	4	-	(2)
J946	Part program storage size 512Kbyte	-	8	-	(2)
J947	Part program storage size 1Mbyte	-	18	-	(2)
J948	Part program storage size 2Mbyte	-	38	1100	(2)
J949	Part program storage size 4Mbyte	-	70	3196	(2)
J959	Part program storage size 8Mbyte	-	136	7392	(2)
R365(*2)	Part program storage size 32Mbyte	-	528	32556	(2)
J953	Number of Registered programs expansion 1	-	-	-	
J954	Number of Registered programs expansion 2	-	-	-	

For (S1) refer to Table 1-4-1.

For (S2) refer to Table 1-4-2.

For (S3) refer to Table 1-4-3.

For (S4) refer to Table 1-4-4.

For (S5) refer to Table 1-4-5.

For (S6) refer to Table 1-4-6.

For (S7) refer to Table 1-4-7.

(*1) Only G423/G42L/G424 (2)

(*2) Only G40L/G42L (2)

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [8/20] (2)

Spec	Item	SRAM	FROM	DRAM
J955	Optional block skip	-	-	-
J956	Background editing	-	-	-
J960	Software operator's panel	1	-	-
J961	Software operator's panel general purpose switch	-	-	-
J962	Multi-language display Dutch	-	-	-
J964	Machining time stamp	-	-	-
J965	Multi-language display Japanese	-	-	-
J967	Multi-language display Chinese	-	-	-
J968	Multi-language display Italian	-	-	-
J969	Multi-language display Korean	-	-	-
J970	Multi-language display Spanish	-	-	-
J971	Run hour and parts count display	-	-	-
J972	Graphic display	-	-	-
J978	Spindle control with servo motor	-	-	-
J981	Inclination compensation	-	-	-
J982	Fine torque sensing	-	5	-
J985	Spindle control with Cs contour control	-	-	-
J986	Gentle normal direction control	-	-	-
J987	High speed position switch	-	-	-
J989	Continuous positional data output function	-	-	-
J990#8M	Exclusive function for special MTB	-	64	-
J990#12M	Exclusive function for special MTB	-	96	
J993#64K	Nonvolatile memory expansion 64KB	128	-	-
J993#256K	Nonvolatile memory expansion 256KB	512	-	-
J997	General purpose retract	-	-	-

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [9/20] (2)

Spec	Item	SRAM	FROM	DRAM
S604	Exclusive function for special MTB	-	-	-
S610	Inter-Path flexible synchronization control	-	-	-
S611	Automatic phase synchronization for flexible synchronization control	-	-	-
S612	Skip function for flexible synchronization control	-	-	-
S615	Optional chamfering corner R	-	-	-
S617	Tool offset	-	-	-
S618	Automatic tool length measurement (M type) / Automatic tool offset (T type)	-	-	-
S627	Active Block Cancel	-	-	-
S628	Direction change movement in auxiliary function output block	-	-	-
S629	Reference position signal output	-	-	-
S630	Dynamic switching of diameter/radius specification	-	-	-
S634	Periodical secondary pitch error compensation	-	-	-
S635	Spindle Learning Control	-	-	-
S637	Machining condition selecting function	-	-	-
S639	Interpolation type straightness compensation	4	-	-
S643	Interference check for rotary area	-	-	-
S644	Interpolation type pitch error compensation	-	-	-
S652#128K	Embedded macro	-	2	- (2)
S655	One Touch Macro Call function	-	-	-
S656	Bi-directional pitch error compensation	6	-	-
S657	Extended bi-directional pitch error compensation	10	-	-
S658	High speed binary program operation retract function	-	-	-
S660	Tandem Disturbance Elimination Control	-	-	-
S661	Dual check safety	32	1	-
S662	High-speed cycle machining skip function	-	-	-
S664	Arbitrary position reference setting for CS axis	-	-	-
S665	Pivot axis control	-	-	-
S666	3-dimensional error compensation	92	-	-
S667	3-dimensional cutter compensation	-	-	-
S670(*1)	Tool length compensation in tool axis direction	-	-	-
S673	3 dimensional circular interpolation	-	-	-
S674	Cutting point interpolation for cylindrical interpolation	-	-	-
S675	Optimum torque acceleration/deceleration	-	-	-

(*1) Only G423/G42L/G424 (2)

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [10/20] (2)

Spec	Item	SRAM	FROM	DRAM
S677	Tool center point control	-	-	-
S678	Jerk control	-	-	-
S679	3-dimensional manual feed	-	-	-
S684	Exclusive function for special MTB	53	16	-
S686	Exclusive function for special MTB	-	-	-
S687	Nano smoothing	-	-	-
S688	Inclined Rotary Axis Control	-	-	-
S689	Multi-language display Czech	-	-	-
S690	Multi-language display Hungarian	-	-	-
S691	Multi-language display Swedish	-	-	-
S694	Increment system D	-	-	-
S702	Rigid tapping bell-shaped acceleration/deceleration	-	-	-
S707	Ethernet function	40(*1)	-	-
S709	Flexible synchronization control	-	-	-
S710	Electronic gear box 2 pair	-	-	-
S711	Electronic gear box automatic phase synchronization	-	-	-
S720	Spindle electronic gear box	-	-	-
S721	Direction-dependent type of high speed position switch	-	-	-
S722	Manual handle interface with FANUC SERVO MOTOR BETA Series with I/O Link (Peripheral control)	-	-	-
S723	DeviceNet Master function	21	-	-
S724	DeviceNet Slave function	9	-	-
S728	Rotary table dynamic fixture offset	2	-	-
S730	Linear scale I/F expansion with absolute address reference mark	-	-	-
S731	PROFIBUS Master function	144	-	-
S732	PROFIBUS Slave function	9	-	-
S737	DataServer function	56	-	-
S739	Multi-language display Polish	-	-	-
S744	Pole Position Detection Function	-	-	-
S745	Exclusive function for special MTB	-	-	-
S747	Position feedback dynamic switching	-	-	-
S748	Exclusive function for special MTB	-	-	-
S749	FOCAS2/HSSB PORT2 function	-	-	-

(*1) When Data server function (S737) is specified, this value becomes 0.

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [11/20] (2)

Spec	Item	SRAM	FROM	DRAM
S774	MANUAL GUIDE i Advanced guidance function	-	-	-
S779	MANUAL GUIDE i Window call function	-	-	-
S786	MANUAL GUIDE i Multi Path function	-	-	2048
S788	MANUAL GUIDE i Tilted Working Plane Indexing function	-	-	-
S789	MANUAL GUIDE i Extended Axis Name Function	-	-	-
S790	MANUAL GUIDE i (Note 1)	(S8)	-	18432 (*1)
R948	MANUAL GUIDE i (Note 1)	(S8)	-	18944(*1)
R949	Upgrade for MANUAL GUIDE i	-	-	512
S797	Handle machining function	-	-	-
S798	Extended conversational macro function	-	20	2560
S805	Increment system E	-	-	-
S806	Arbitrary command multiply	-	-	-
S807	AI contour control I	-	-	6144(*3)
S808	AI contour control II	-	-	6144
S809	High-speed processing	-	-	13312
S812	I/O Link BETA unexpected disturbance torque detection function	-	-	-
S813	Machine alarm diagnosis	-	4	860
S815	Look-ahead blocks expansion	-	-	(D1) (2)
S816	Synchronous/Composite control	-	-	-
S818	Superimposed Control	-	-	-
S825	Changing Active Offset Value with Manual Move	-	-	-
S827	C-language executor additional SRAM 512KB	896	-	-
S828	Protection of Data at Eight Levels	2	-	-
S829	Multi-language display Chinese (simplified characters)	-	-	1152(*2)

For (S8) refer to Table 1-4-8.

For (D1) refer to Table 1-6-1. (2)

(Note 1) When Multiple system (S838#C) is specified, following functions must be specified.
Lathe/Machining center G code system switching function(R597), Tool offset for Milling and Turning function(R595), Tool offset memory C(J937), Tool geometry/wear compensation(J931), Dynamic switching of diameter/radius specification(S630), Tool geometry size data 100-pairs (R589) or Tool geometry size data 300 pairs(R590).
MANUAL GUIDE i Multi Path Lathe Function (S786) cannot be specified.

(*1) When Graphic function (60VN) is not specified, this value in case of S790 becomes 13312 (=18432-5120) and this value in case of R948 becomes 13824 (=18944-5120)

(*2) When Graphic function (60VN) Simplified Chinese font for 8.4" LCD (A02B-0323-J542#60VN) is not specified, this value becomes 0.

(*3) When AI contour control II (S808) is specified, this value becomes 0.

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [12/20] (2)

Spec	Item	SRAM	FROM	DRAM
S834 S835 S830 S831 S833	Tool management function: Customized data expansion (5-20) Tool management function: Customized data expansion (5-40) Tool pair for tool management function: 64 pairs Tool pair for tool management function: 240 pairs Tool pair for tool management function: 1000 pairs	(S9)	-	-
S997	Tool attachment /detachment management function	(S10)	-	-
R681	Tool management function for multi-edge tools	41	-	-
S852	Tool management expansion	3	-	-
R616	Tool management expansion B	(S11)	-	-
S839	Multi-language display German	-	-	-
S841	Multi-language display French	-	-	-
S842	Real time custom macro	25	-	-
S844	Machine operation menu function	-	1	-
S848	Hypothetical axis control by polar coordinate conversion	-	-	-
S849	Multi-language display Russian	-	-	-
S851	Safety function by FL-net	1	-	-
S853	Helical involute interpolation	-	-	-
S854	Groove cutting function by continuous circle movement	-	-	-
S858	Manual handle feed 4/5-units	-	-	-
S860	Thermal Growth Compensation Along Tool Vector	-	-	-
S879	FANUC PICTURE function	135	48	6144
S880	High speed program check	-	-	3690
S883	Virtual MDI key	-	-	-
S884	CNC screen dual display function	-	-	-
S886	Path Table Operation	-	-	7168
S888	Waiting function by specifying start point	-	-	-
S889	Auxiliary function output in moving axis	-	-	-
S890	Synchronous, Composite and Superimposed control by program command	-	-	-
S941	I/O link assignment data setting function	8	-	-
S942	Automatic tool nose radius compensation	-	-	-
S944	FANUC PICTURE function for non-touch panel display	134	48	6144
S945	Reference position setting with mechanical stopper by Grid method	-	-	-

For (S9) refer to Table 1-4-9.

For (S10) refer to Table 1-4-10

For (S11) refer to Table 1-4-11

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [13/20] (2)

Spec	Item	SRAM	FROM	DRAM
S946	Thread start position compensation in changing spindle speed	-	-	-
S949	Manual interruption of 3-dimensional coordinate system conversion	-	-	-
S967#40K	Nonvolatile PMC data table area expansion (40KB)	80	-	-
S968	Hypothetical linear axis control	-	-	-
S974	Canned cycle for grinding	-	-	-
S982	Step sequence function	-	-	384
S984#10K	Nonvolatile PMC extra relay function	20	-	-
S989	Exclusive function for special MTB	-	-	-
S992	Time constant of acceleration/deceleration after interpolation switching function by signal	-	-	-
S993	Workpiece setting error compensation	2	-	-
S994(*1)	Tool posture control	-	-	-
S995	Memory card program entry count extension	-	-	-
S998	High speed measuring position reach signal input	-	-	-

(*1) Only G423/G42L/G424 (2)

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [14/20] (2)

Spec	Item	SRAM	FROM	DRAM	
R305	Operation history save function	-	-	-	
R323	The number of custom macro variable name 1000	-	-	256	
R324	The number of custom macro variable name 4000	-	-	1024	
R361	Smart adaptive control	40	-	2048	(2)
R370	Milling Standard Package I+	332	-	18944	(2)
R371	Milling Standard Package II+	426	-	18944	(2)
R372	Milling Standard Package III+	426	-	18944	(2)
R387	Learning helical interpolation	-	-	-	
R390	Dual control axes switching	-	-	-	
R410	Multi-language display Vietnamese	-	-	-	
R411	Multi-language display Indonesian	-	-	-	
R412	Machine setting switching function	47	-	-	
R414	Quick program restart II	360	-	(D2)	(2)
R415	Cross rail axis control	-	-	-	
R417	Function for loader control	-	-	-	
R462	Adjustable type embedded safety circuit	-	-	-	
R468	Look-ahead blocks expansion of AI contour control II	-	-	11264	
R500	Dwell/Auxiliary function time override function	-	-	-	
R501	Interference check function for automatic lathe machine	-	-	-	
R502	Programmable rapid traverse overlap	-	-	-	
R503	Exclusive function for special MTB	-	-	-	
R504	Gentle curve cutting	-	-	-	
R505	Automatic Exact Stop check	-	-	-	
R506	Torch swing for gas cutting machine	-	-	-	
R507	Tool offset B	-	-	-	
R508	Corner control by feedrate	-	-	-	
R509	Parallel Axis Control	-	-	-	
R511	RS232C interface expansion of receiving buffer	-	-	-	
R512(*1)	Nano smoothing 2	-	-	-	
R514	Exclusive function for special MTB	-	-	-	
R515	Flexible path spindle assignment	-	-	-	
R516	High speed binary program operation	-	-	-	
R409 R518	Editing for Manual Handle Retrace Editing for Manual Handle Retrace B Either one	-	-	25100	
R519	In-acceleration/deceleration signal	-	-	-	
R520	Linear inclination compensation function	-	-	-	
R521	Selection of Five Optional Language	-	-	1152(*2)	
R522	Tilted working plane indexing command	-	-	-	
R524	Tool offset function (Path Table Operation)	-	-	-	

For (D2) refer to Table 1-6-2. (2)

(*1) Only G423/G42L/G424 (2)

(*2) When Graphic function (60VN) Simplified Chinese font for 8.4" LCD (A02B-0323-J542#60VN) is not specified, this value becomes 0.

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [15/20] (2)

Spec	Item	SRAM	FROM	DRAM
R525	Path table operation history function	20	-	-
R526	Cycle table operation function (Path Table Operation)	-	-	-
R527	Spindle speed control / Cs contour control dynamic changing function (Path Table Operation)	-	-	-
R528	Delay time setting function of auxiliary function output (Path Table Operation)	-	-	-
R530	Cs contour control speed command switching function	-	-	-
R532	Exclusive function for special MTB	-	-	-
R533	Optimum acceleration/deceleration for rigid tapping	-	-	-
R535	Functions for gas cutting machine	-	-	-
R538	Superimposed Control A	-	-	-
R540(*1)	Exclusive function for special MTB	2	-	-
R541	Built-in 3D interference check function	96	-	-
R542	3D interference check with Personal computer function	-	-	-
R545	Path Table direct conversion function	-	56	-
R547	Chopping function by flexible synchronization control	-	-	-
R549	MDI reset key invalidation function	-	-	-
R550	Middle-Level Task of C Language Executor	-	-	-
R551	Exclusive function for special MTB	6	-	23680
R552	Stored stroke check 1 area expansion	-	-	-
R553	Positioning in machine coordinate system with feed rate	-	-	-
R554	Superimposed control for high-speed cycle machining	-	-	-
R558	Manual 2nd/3rd/4th reference position return function	-	-	-
R559	Pulse superimposed function	-	-	-
R561	Template program function	-	-	-
R564	High speed signal output function for Path Table Operation	-	-	-
R567(*1)	Nozzle compensation for water jet machine	-	-	-
R569	Speed command 8 step acceleration/deceleration	-	-	-
R570	Polygon turning by Cs contour control	-	-	-
R572	FANUC Auto HMI-NC	-	-	-
R575	Retraction for 3-dimensional rigid tapping	-	-	-
R576	Auxiliary function output in the program restart function	-	-	-
R578	Cylindrical interpolation by plane distance command	-	-	-

(*1) Only G423/G42L/G424 (2)

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [16/20] (2)

Spec	Item	SRAM	FROM	DRAM
R580	Incremental command for Path Table Operation	-	-	-
R581	3-dimensional machine position compensation	-	-	-
R582	Exclusive function for special MTB	-	-	-
R584	Serial/Analog Spindle control	-	-	-
R585	Stroke limit area changing function	-	-	-
R587	Multi-language display Turkish	-	-	-
R588	Servo/Spindle waveform data output function	-	64	8192
R589 R590 R362 S608 R685	Tool geometry size data 100-pairs Tool geometry size data 300-pairs Tool geometry size data 1000-pairs Tool Offset Memory Changing Function Addition of tool kind in tool geometry size data	(S12)	-	-
R592	Expansion of axis command in tool center point control	-	-	-
R593	Machining quality level adjustment	-	-	-
R594	M code protect function	-	-	-
R595	Tool offset for Milling and Turning function	-	-	-
R596	Turning G code system switching function	-	-	-
R597	Lathe/Machining center G code system switching function	-	-	-
R598	Polygon turning function for Path Table Operation	-	-	-
R599	Threading start position shift function for Path Table Operation	-	-	-
R600	Manual handle feed multiple 10 million	-	-	-
R602	Hypothetical Y axis control	-	-	-
R605	Spindle Speed fluctuation detection for Path Table Operation	-	-	-
R607	Flexible path axis assignment	1	-	-
R608	Spindle control switching function for High-speed cycle machining	-	-	-
R609	High-speed cycle machining operation information output function	-	-	-
R613	Axis immediate stop function	-	-	-
R614	Chopping setting screen	-	-	-
R615	Multi-path editing function	-	-	-
R618	Sub Table Call for Path Table Operation	-	-	-
R619	Exclusive function for special MTB	-	-	-
R620	Spindle unit compensation	-	-	-
R621	FANUC Auto HMI multi-language support	-	-	-
R623	Manual intervention and return	-	-	-
R626	Safety spindle speed limit override function	-	-	-
R627	Reference position setting with mechanical stopper for feed axis synchronization control	-	-	-

For (S12) refer to Table 1-4-12

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [17/20] (2)

Spec	Item	SRAM	FROM	DRAM
R628	Nutating rotary head tool length compensation	-	-	-
R629	Multi head 3-dimensional handle feed in parallel axis control	-	-	-
R630	Quick program restart	360	-	(D3) (2)
R631	Circular thread cutting B	-	-	-
R632	Exclusive function for special MTB	-	-	- (2)
R634(*1)	Feed control by EDM power supply	-	-	7168
R635	Rate feed	-	-	-
R636	Gap control	-	-	-
R638	Interpolation type straightness compensation 3072 points	10	-	-
R639	Smooth TCP	-	-	-
R640	PMC Axis Control Acceleration/Deceleration Specification Feed	-	-	-
R644	FANUC PICTURE Executor	134	-	-
R648	In-position check switching function for drilling canned cycle	-	-	-
R649	3-dimensional rotary error compensation	92	-	-
R652	Exclusive function for special MTB	-	-	-
R653	FANUC Auto HMI-NC screen enhancement 1	-	-	-
R658	Two touch panels control for stand-alone type CNC	-	-	-
R659	U-Axis Control 2 pairs	-	-	-
R662	High precision oscillation function	-	-	-
R668	Cutting/rapid switching function for Path Table Operation	-	-	-
R670	Warning function against modification of setting	-	1	-
R671	Test Mode function for Acceptance Test	-	-	-
R672	Arbitrary speed threading	-	-	-
R676(*2)	Package of function for transfer line	(S13)	-	-
R677(*1)	High-speed smooth TCP	(S6)	-	-
R678	Automatic Corner Speed Control	-	-	-
R682	Exclusive function for special MTB	92	-	-
R683	Robot connection function	91	-	-
R684	Multi-path program management function	-	-	-
R686	Multi-language display Bulgarian	-	-	-
R687	Addition of custom macro common variables 1000	16	-	-

For (S13) refer to Table 1-4-13

For (S6) refer to Table 1-4-6.

For (D3) refer to Table 1-6-3. (2)

(*1) Only G423/G42L/G424 (2)

(*2) Only G403/G40L/G404 (2)

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [18/20] (2)

Spec	Item	SRAM	FROM	DRAM
R691	Tool offset conversion function	-	-	-
R692	High Precision Learning Control C	-	-	-
R693	Multi-language display Slovak	-	-	-
R694	Multi-language display Rumanian	-	-	-
R696	Smooth tolerance control	-	-	-
R700	Machine Configuration Selecting function	11	-	-
R711	Twin display function with Ethernet	-	-	-
R714	Machine operation panel screen display	-	160	-
R715	Exclusive function for special MTB	-	-	-
R717	Machine state monitoring function	1	9	-
R719	Energy saving level selecting function	4	-	-
R721(*1)	5-axis machining condition setting function	21	-	-
R722	Ethernet display sharing function	-	-	-
R723	Exclusive function for special MTB	-	-	8704
R725	Peripheral axis control	-	-	-
R726	Multi-language display Finnish	-	-	-
R727	Path table operation execution data size 20MByte	-	104(*2)	13312
R728	CNC screen Web server function	-	-	-
R730	Exclusive function for special MTB	-	-	-
R811(*1)	EDM Power Supply Communication control (HSSB connection)	-	-	-
R822	Die sinking EDM function	-	8	1024
R847	Hob command by Flexible synchronization control	-	-	-
R849	Stored stroke limit range switching function by signal	-	-	-
R853	Exclusive function for special MTB	2	-	-
R854	Exclusive function for special MTB	-	-	-
R855#3	Multi-path PMC function (3 paths)	64	-	-
R855#5	Multi-path PMC function (5 paths)	128	-	-

(*1) Only G423/G42L/G424 (2)

(*2) When R545 is not specified, this value becomes 0.

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [19/20] (2)

Spec	Item	SRAM	FROM	DRAM
R856#512K	PMC symbol, comment, and message capacity expansion (512KB)	-	4	512(*1)
R856#1M	PMC symbol, comment, and message capacity expansion (1MB)	-	8	1024
R856#2M	PMC symbol, comment, and message capacity expansion (2MB)	-	16	2048
R901	iHMI Basic function	(S14)(*3)	4(*4)	19804(*5)
R910	iHMI set-up guidance	-	-	-
R911	iHMI machining cycle (for 1 path system)	-	-	-
R912	iHMI machining cycle (for 2 path system)	-	-	2048
R950	Ethernet Display function	-	-	-
R953	DataServer Explorer connection function	-	-	-
R954	CC-Link Remote Device function	1	-	-
R964	FL-net PORT2 function	12	-	-
R966	EtherNet/IP Scanner function	128	-	-
R967	EtherNet/IP Adapter function	12	-	-
R968	Modbus/TCP Server function	-	-	-
R970	Machine State Save function	56(*2)	-	-
R971	PROFINET IO Controller function	128	-	-
R972	PROFINET IO Device function	12	-	-
R973	EtherNet/IP Scanner PORT2 function	-	-	-
R974	EtherNet/IP Adapter PORT2 function	-	-	-
R975	CNC Status Notification function	-	-	-
R976	EtherNet/IP Adapter Safety function	33	-	-
R977	PROFINET IO Device Safety function	33	-	-
R979	PMC allocation expansion of PROFINET IO Controller function	40	-	- (2)
A02B-0207-J820	Ladder editing package function	-	-	-
A02B-0207-J921	iHMI Machine collision avoidance with personal computer function	-	-	-

(*1) When H990#300K is not specified, this value becomes 0.

(*2) When Ethernet function (S707) is specified, this value becomes 16.

(*3) For (S14) refer to Table 1-4-14.

(*4) When Machine alarm diagnosis (S813) is specified, this value becomes 0.

(*5) When MANUAL GUIDE i (R948) is specified, this value becomes 860. When Machine alarm diagnosis (S813) is specified, this value becomes 18944. When both options are specified, this value becomes 0.

Table 1-3-1. G403/G40L/G423/G42L/G404/G424 Memory requirement table [20/20] (2)

Spec	Item	SRAM	FROM	DRAM
A02B-0323-H590#90G0	Digital servo function (90G0)	-	5	-
A02B-0323-H590#90G3	Digital servo function (90G3)	-	5	-
A02B-0323-H590#90J0	Digital servo function (90J0)	-	5	-
A02B-0323-H590#90J3	Digital servo function for Learning control (90J3)	-	5	-
A02B-0323-H590#90K0	Digital servo function (90K0)	-	4	-
A02B-0323-J535#655B	PROFIBUS software	-	2	-
A02B-0323-J541#60VN	Graphic function (60VN)	-	8	-
A02B-0323-J542#60VN	Graphic function (60VN) Simplified Chinese font for 8.4" LCD	-	4	-
A02B-0323-J587#60VP	Graphic function (60VP)	-	-	-
A02B-0323-J587#60VS	Graphic function (60VS)	-	-	-
A02B-0323-J588#60VQ	Graphic function (60VQ)	-	-	-
A02B-0323-J560#BX71	MANUAL GUIDE i software	-	99	-
A02B-0323-J560#BX72	MANUAL GUIDE i software	-	107	-
A02B-0323-J561#658K	Fast Ethernet software	-	18	-
A02B-0323-J562#6552	PROFIBUS Master software	-	4	-
A02B-0323-J563#655C	PROFIBUS Slave software	-	1	-
A02B-0323-J564#658R	PROFINET function software	-	12	-
A02B-0323-J565#6579	DeviceNet software	-	2	-
A02B-0323-J567#658S	Network Safety software	-	2	-
A02B-0323-J571#658M	Embedded Ethernet software	-	4	-
A02B-0323-J573#658N	Control software for Ethernet display function	-	7	-
A02B-0323-J574#6591	CC-Link software	-	2	-
A02B-0323-J575#659A	USB software	-	2	-
A02B-0323-J545#406Q	Exclusive function for special MTB	-	8	-
	(S1)-(S13) subtotal	(S)		
	(F1) subtotal		(F)	
	grand total	#1	#2	#3

Table 1-4-1 Required SRAM volume for tool offset (S1)

Machine control type: Milling system

Tool offset memory \ Tool offset pairs	Standard	64pairs	99pairs	200pairs	400pairs	499pairs	999pairs	2000pairs
Tool offset memory A (Standard)	-	1	2	4	7	8	16	32
Tool offset memory B	1	2	4	7	13	16	32	63
Tool offset memory C	2	4	7	13	25	32	63	125

Machine control type: Lathe system

Tool geometry / wear compensation \ Tool offset pairs	Standard	64pairs	99pairs	200pairs	400pairs	499pairs	999pairs	2000pairs
Not available (Standard)	-	2	4	7	13	16	32	63
Available	2	4	7	13	25	32	63	125

Machine control type: Compound system having both Lathe and Milling function

Tool offset memory \ Tool offset pairs	Standard	64pairs	99pairs	200pairs	400pairs	499pairs	999pairs	2000pairs
Tool offset memory A (Standard)	-	1	2	4	7	8	16	32
Tool offset memory B	1	2	4	7	13	16	32	63
Tool offset memory C	2	4	7	13	25	32	63	125

Tool geometry / wear compensation \ Tool offset pairs	Standard	64pairs	99pairs	200pairs	400pairs	499pairs	999pairs	2000pairs
Not available (Standard)	-	2	4	7	13	16	32	63
Available	2	4	7	13	25	32	63	125

Table 1-4-2. Required SRAM volume for interference check for each path (S2)

Tool offset pairs	Standard	64pairs	99pairs	200pairs	400pairs	499pairs	999pairs	2000pairs
	4	8	13	25	50	63	125	250

Table 1-4-3. Required SRAM volume for Tool radius – Tool nose radius compensation (S3)

Machine control type: Milling system

Tool offset pairs	Standard	64pairs	99pairs	200pairs	400pairs	499pairs	999pairs	2000pairs
	1	1	1	1	1	1	2	4

Machine control type: Lathe system or Compound system

Tool offset pairs / Tool geometry / wear compensation	Standard	64pairs	99pairs	200pairs	400pairs	499pairs	999pairs	2000pairs
Not available	2	2	3	5	8	9	18	36
Available	2	3	5	8	14	17	34	67

Table 1-4-4. Required SRAM volume for Y axis offset (S4)

Tool offset pairs / Tool geometry / wear compensation	Standard	64pairs	99pairs	200pairs	400pairs	499pairs	999pairs	2000pairs
Not available	1	1	2	4	7	8	16	32
Available	1	2	4	7	13	16	32	63

Table 1-4-5. Required SRAM volume for 2nd geometry tool offset (S5)

Tool offset pairs	Standard	64pairs	99pairs	200pairs	400pairs	499pairs	999pairs	2000pairs
	2	4	5	10	20	24	48	96

Table 1-4-6. Required SRAM volume for cutting point command or High-speed smooth TCP (S6)

Tool offset pairs	Standard	64pairs	99pairs	200pairs	400pairs	499pairs	999pairs	2000pairs
	1	2	4	7	13	16	32	63

Table 1-4-7. Required SRAM volume for 4th/5th axis offset (S7)

Tool offset pairs / Tool geometry / wear compensation	Standard	64pairs	99pairs	200pairs	400pairs	499pairs	999pairs	2000pairs
Not available	1	2	4	7	13	16	32	63
Available	2	4	7	13	25	32	63	125

Table 1-4-8 SRAM requirement Function table for the MANUAL GUIDE i (S8)

Item	Spec.
MANUAL GUIDE i	S790
MANUAL GUIDE i	R948

SRAM requirement for Manual GUIDE i is as follows.

(a) Macro executor (J888) or Macro executor + C-language executor (J734)

(1) When (a) is not ordered, 366

(2) When (a) is ordered, 256

Table 1-4-9. Required SRAM volume for Tool management function (S9)

Tool management data pairs / Customized data expansion	64 pairs	240 pairs	1000 pairs
Not available (Standard)	13	39	155
5 – 20	21	69	280
5 – 40	32	108	437

Table 1-4-10. Required SRAM volume for Tool attachment/detachment management function (S10)

Tool management function for multi-edge tools (R681) / Customized data expansion	Not available (Standard)	Available
Not available (Standard)	5	13
5 – 20	9	17
5 – 40	11	19

Table 1-4-11. Required SRAM volume for Tool management expansion B (S11)

Tool management data pairs	64 pairs	240 pairs	1000 pairs
	13	30	101

Table 1-4-12. Required SRAM volume for Tool geometry size data (S12)

Tool geometry size data pairs / Functions	100 pairs	300 pairs	1000 pairs
S608 and R685 are not specified(Standard)	10	28	91
Only Tool offset memory changing function(S608) is specified	20	56	182
Only Addition of tool kind in tool geometry size data(R685) is specified	20	60	
Both S608 and R685 are specified	40	120	

Table 1-4-13. Required SRAM volume for Package of function for transfer line (S13)

Machine control type: Milling system

Tool offset pairs	Standard	64pairs	99pairs	200pairs	400pairs	499pairs	999pairs	2000pairs
	385	386	388	391	397	400	416	447

Machine control type: The other of Milling system 384

Table 1-4-14. Required SRAM volume for iHMI Basic function (S14)

Functions \ Macro executor (J888) or Macro executor + C-language executor (J734)	Not available	Available
R948 and R685 are not specified(Standard)	369	259
Only Addition of tool kind in tool geometry size data(R685) is specified	373	263
Only MANUAL GUIDE i (R948) is specified	3	3
Both R948 and R685 are specified	7	7

Table 1-5-1. Required FROM volume for Automatic data backup function.(F1)

Select the FROM required size by following condition.

- Number of backup data (1-3)
- The Part program backup function is valid or invalid
- SRAM capacity
- Embedded macro (S652#128K)

1) 1 backup data (H510#B10,H510#B11) and Embedded macro is not specified

Part program Storage size / SRAM capacity	No use Backup function	64Kbyte	128Kbyte (J944)	256Kbyte (J945)	512Kbyte (J946)	1Mbyte (J947)	2Mbyte (J948)	4Mbyte (J949)	8Mbyte (J959)
1M	5	6	7	7	9	12	18	29	50
2M	10	11	12	12	14	17	24	34	55

Part program Storage size / SRAM capacity	32Mbyte (R365) (Note 1)	
1M	191	(2)
2M	196	(2)

(2)

2) 2 backup data (H510#B20,H510#B21) and Embedded macro is not specified

Part program Storage size / SRAM capacity	No use Backup function	64Kbyte	128Kbyte (J944)	256Kbyte (J945)	512Kbyte (J946)	1Mbyte (J947)	2Mbyte (J948)	4Mbyte (J949)	8Mbyte (J959)
1M	10	12	14	14	18	24	36	58	100
2M	20	22	24	24	28	34	48	68	110

Part program Storage size / SRAM capacity	32Mbyte (R365) (Note 1)	
1M	382	(2)
2M	392	(2)

(2)

3) 3 backup data (H510#B30,H510#B31) and Embedded macro is not specified

Part program Storage size / SRAM capacity	No use Backup function	64Kbyte	128Kbyte (J944)	256Kbyte (J945)	512Kbyte (J946)	1Mbyte (J947)	2Mbyte (J948)	4Mbyte (J949)	8Mbyte (J959)
1M	15	18	21	21	27	36	54	87	150
2M	30	33	36	36	42	51	72	102	165

Part program Storage size / SRAM capacity	32Mbyte (R365) (Note 1)	
1M	(Note 2)	(2)
2M	(Note 2)	(2)

(2)

4) 1 backup data (H510#B10,H510#B11) and Embedded macro is specified

Part program Storage size / SRAM capacity	No use Backup function	64Kbyte	128Kbyte (J944)	256Kbyte (J945)	512Kbyte (J946)	1Mbyte (J947)	2Mbyte (J948)	4Mbyte (J949)	8Mbyte (J959)
1M	5	7	8	8	10	13	19	30	51
2M	10	12	13	13	15	18	25	35	56

Part program Storage size / SRAM capacity	32Mbyte (R365) (Note 1)	
1M	192	(2)
2M	197	(2)

(2)

5) 2 backup data (H510#B20,H510#B21) and Embedded macro is specified

Part program Storage size / SRAM capacity	No use Backup function	64Kbyte	128Kbyte (J944)	256Kbyte (J945)	512Kbyte (J946)	1Mbyte (J947)	2Mbyte (J948)	4Mbyte (J949)	8Mbyte (J959)
1M	10	14	16	16	20	26	38	60	102
2M	20	24	26	26	30	36	50	70	112

Part program Storage size / SRAM capacity	32Mbyte (R365) (Note 1)	
1M	384	(2)
2M	394	(2)

(2)

6) 3 backup data (H510#B30,H510#B31) and Embedded macro is specified

Part program Storage size / SRAM capacity	No use Backup function	64Kbyte	128Kbyte (J944)	256Kbyte (J945)	512Kbyte (J946)	1Mbyte (J947)	2Mbyte (J948)	4Mbyte (J949)	8Mbyte (J959)
1M	15	21	24	24	30	39	57	90	153
2M	30	36	39	39	45	54	75	105	168

Part program Storage size / SRAM capacity	32Mbyte (R365) (Note 1)	
1M	(Note 2)	(2)
2M	(Note 2)	(2)

(2)

(Note 1) Only G40L/G42L (2)

(Note 2) Part program storage size 32Mbyte (R365) and Automatic data backup 3 backup data (SRAM+Part program) (H501#B31) cannot be specified together. (2) (2)

Table 1-5a. The relation between Extended P-code variables size and Number of P-code variables.
The following table is Number of P-code variables in case that Extended P-code variables and P-code variables are floating point data (parametrs EV2(No.9033#3)=0 and EVF(No.9033#4)=0).

Extended P-code variables size	Number of P-code variables (EV2=0 : P-code variables hold floating point data) (EVF=0 : Extended P-code variables hold floating point data)
0	6000
256Kbyte (J739#256K)	38768
512Kbyte (J739#512K)	71536
1Mbyte (J739#1M)	80000 + User file 445Kbyte

Table 1-5b. The relation between Extended P-code variables size and Number of P-code variables.
The following table is Number of P-code variables in case that Extended P-code variables and P-code variables are integer data (EV2(No.9033#3)=1 and EVF(No.9033#4)=1).

Extended P-code variables size	Number of P-code variables (EV2=1 : P-code variables hold integer data) (EVF=1 : Extended P-code variables hold integer data)
0	24000
256Kbyte (J739#256K)	80000 + User file 146Kbyte
512Kbyte (J739#512K)	80000 + User file 402Kbyte
1Mbyte (J739#1M)	80000 + User file 914Kbyte

(Note) The data type of Extended P-code variables and P-code variables (EV2(No.9033#3) and EVF(No.9033#4)) can be set independently. In case of that, required SRAM size is as follows.
<Required SRAM> = <Number of integer data> * 2byte + <Number of floating point data> * 8byte

Table 1-6-1. Required DRAM volume for Look-ahead blocks expansion (D1) (2)

Series		(2)
G403/G404/G423/G424	13312	(2)
G40L/G42L	32768	(2)

Table 1-6-2. Required DRAM volume for Quick program restart II (D2) (2)

Series		(2)
G403/G404/G423/G424	12288	(2)
G40L/G42L	19456	(2)

Table 1-6-3. Required DRAM volume for Quick program restart (D3) (2)

Series		(2)
G403/G404/G423/G424	6144	(2)
G40L/G42L	9728	(2)