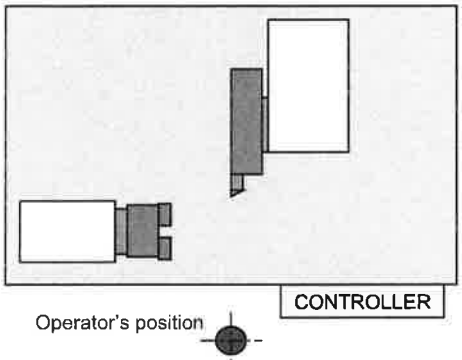
2. INTEGREX e-650HS II

Item			Unit	INTEGREX e-650HS II			
				2000	3000	4000	6000
Capacity	Maximum swing		mm (in.)	ϕ920 (ϕ36)			
	Swing over cross slide		mm (in.)	ϕ920 (ϕ36)			
	Max. machining diameter		mm (in.)	ϕ920 (ϕ36)			
	Spindle through hole diameter	Spindle 1	mm (in.)	ϕ170 (ϕ6.69)			
		Spindle 2	mm (in.)	ϕ170 (ϕ6.69)			
	Maximum support weight (including chuck)	Spindle 1	kgf (lbs)	Chuck work ...4300 (9460) [Note 1]			
		Spindle 2	kgf (lbs)	Chuck work ...1000 (2200) [Note 1]			
Turning spindle (No. 1)	Rotating speed		min^{-1} (rpm)	35 - 1600			
	Turning spindle through hole diameter		mm (in.)	ϕ170 (ϕ6.69)			
	Turning spindle nose		—	JIS A2-11"			
	Turning spindle bearing inner diameter		mm (in.)	ϕ220 (ϕ8.66)			
	Turning spindle motor (30-min./cont. rating)		kW (HP)	AC45/37 (59.9/49.2) [Note 2]			
	Maximum torque		N-m (kgf-m, ft-lbs)	4500 (459, 3318.6) [Note 2]			
Turning spindle No. 2	Rotating speed		min^{-1} (rpm)	35 - 1600			
	Turning spindle through hole diameter		mm (in.)	ϕ170 (ϕ6.69)			
	Turning spindle nose		—	JIS A2-11"			
	Turning spindle bearing inner diameter		mm (in.)	ϕ220 (ϕ8.66)			
	Turning spindle motor (30-min./cont. rating)		kW (HP)	AC45/37 (59.9/49.2) [Note 2], [Note 3]			
	Maximum torque		N-m (kgf-m, ft-lbs)	4500 (459, 3318.6) [Note 2], [Note 3]			
Milling spindle	Milling nead type		—	Single spindle with ATC unit			
	Tool shank type		—	BT 50			
	Tool size	O. D. turning	mm (in.)	□25 (□1)			
		I. D. turning		ϕ50 (2)			
		Max.		ϕ260 × 500 L (ϕ10.24 × 19.69 L)			
	90° indexing time		sec	0.7			
	Milling-spindle motor output (30-min. rating)		kW (HP)	37 (49.2)			
	Maximum rotary tool torque (1-min. rating)		N-m (kgf-m, ft-lbs)	505 (51.5, 372.2)			
	Milling spindle speed		min^{-1} (rpm)	35 - 10000			

Item			Unit	INTEGREX e-650HS II			
				2000	3000	4000	6000
Feed axis	Rapid feed rate	X-axis	m/min (in./min)	40 (1574.8)			
		Y-axis		40 (1574.8)			
		Z-axis		40 (1574.8)		30 (1181.1)	18 (708.7)
		W-axis		12 (472.4) [5 (196.9)] [Note 4]		10 (393.7) [5 (196.9)] [Note 4]	5 (196.9) [3 (118.1)] [Note 4]
		V-axis option specification		8 (315.0) [5 (196.9)] [Note 4]			
	Movement stroke	X-axis	mm (in.)	1025 (40.35)			
		Y-axis		650 (25.59)			
		Z-axis		2106 (82.91)	3122 (122.91)	4138 (162.91)	6170 (242.91)
		W-axis		2032 (80.00) [1492 (58.74)] [Note 5]	3053 (120.20) [2463 (96.97)] [Note 5]	[3214 (126.54)]	[4816 (189.61)]
		V-axis option specification		1492 (58.74)	2463 (96.97)	3214 (126.54)	4811 (189.41)
Others	Coolant tank capacity		L (gal (US))	700 (184.9)	900 (237.8)	1050 (277.4)	1090 (288.0)
	Electrical requirement (continuous)		kVA	111.1			113.5
	Air pressure		MPa (PSI)	0.5 (70)			
	Total air capacity		L/min (ft^3/min) (ANR)	590 (20.65)			
Total	Machine dimensions (with magazine)	Height of centers	mm (in.)	1350 (53.15)			
		Length	mm (in.)	7945 (312.80)	8945 (352.17)	10331 (406.73)	13267 (522.32)
		Width	mm (in.)	5039 (198.39) [Note 6]			
		Height	mm (in.)	3920 (154.33)			
	Machine weight		kgf (lbs)	26500 (58300)	31500 (69300)	37000 (81400)	41000 (90200)

Item		Unit	INTEGREX e-650HS II			
			2000	3000	4000	6000
Noise	Noise level (L_{WA})	dB	77			
	Unconfirmed level (K)		4			
	Measuring conditions		1. Spindle speed: 1300 min^{-1} (rpm) (During workpiece gripping by chuck) 2. Feed axis to be driven. 3. Turret to be indexed. 4. Chip conveyor to be ON. 5. Tailstock not to be used.			
	Measuring method		EN-12415/12417/12478, ISO230-5			
	Measuring position		 (Note) The main sources of the noise air-conducted from the machine will include the following: - Spindle drive - Feed axis drive - Turret index unit - Chip conveyor			
	Remarks: The figures quoted are emission levels and are not necessarily safe working levels. Whilst there is a correlation between the emission and exposure levels, this cannot be used reliably to determine whether or not further precautions are required. Factors that influence the actual level of exposure of the work-force include the characteristics of the work room, the other sources of noise, etc. i.e. the number of machines and other adjacent processes, and the length of time for which an operator is exposed to the noise. Also the permissible exposure level can vary from country to country. This information, however, will enable the user of the machine to make a better evaluation of the hazard and risk.					

Note 1: The center of gravity of the chucked workpiece must be within a distance of 400 mm (15.75 in.) from the spindle nose.

The rigidity and holding force of the workpiece support are not allowed for.

The maximum admissible weight is a theoretical value of static load; note that the bearing life further depends upon rotational balance and cutting conditions.

Note 2: Even during cutting within specification with a standard outside turning tool, the main component force must not exceed 1800 kgf (3960 lbs).

Note 3: As for machining on the side of the spindle No. 2, the Z-axis component of the cutting force is limited to the same value as the thrust of the W-axis (1578 kgf or 3471.6 lbs).

Note 4: Values in square brackets refer to synchronous feed of the W- and V-axis.

Note 5: Values in square brackets refer to machines with an optional NC work rest.

Note 6: e-Tower, NC operating panel and oil controller included.

Note 7: The figures indicated on the machine plates shall be applied if different from the manual.