

Technical Specifications HM-40**/4A

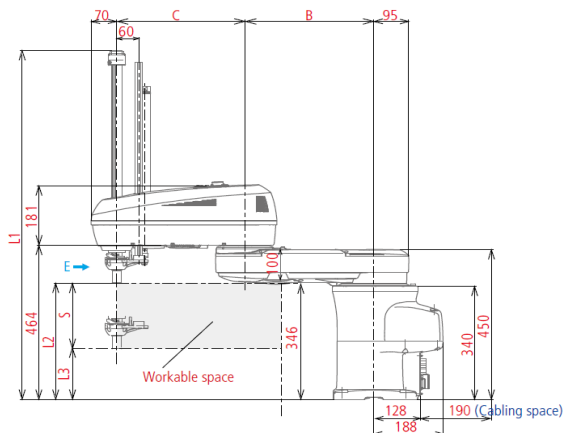
Item		Specifications							
Model name of robot unit(*1)		HM-4060*	HM-4A60*	HM-4070*	HM-4A70*	HM-4085*	HM-4A85*	HM-40A0*	HM-4AA0*
Axes		4							
Position detection		Absolute encoder							
Drive motor and brake		All-axis AC servo motor / Z-axis gravity balance air cylinder / Z-axis motor brake							
Total arm length (No. 1 arm + No. 2 arm)		600(250+350)mm		700(350+350)mm		850(350+500)mm		1,000(500+500)mm	
Motion range and stroke	J1 (No.1axis)	±165°							
	J2 (No.2 axis)	±143°	±147°						
	Z (No.3 axis)	*=1:100mm、*=A:150mm、*=2:200mm、*=3:300mm、*=4:400mm(*4)							
	T (No.4 axis)	±360°							
Maximum payload		10kg	20kg	10kg	20kg	10kg	20kg	10kg	20kg
Maximum joint speed	J1	449.74deg/sec				412.26deg/sec		374.78deg/sec	
	J2	667.5deg/sec				611.87deg/sec		556.25deg/sec	
	Z	2764.88mm/sec				2764.88mm/sec			
	T	2229.93 deg/sec	1544.51 deg/sec	2229.93 deg/sec	1544.51 deg/sec	2229.93 deg/sec	1544.51 deg/sec	2229.93 deg/sec	1544.51 deg/sec
Cycle time(*2)		Approx. 0.2sec				Approx. 0.3sec			
Position repeatability(at the center of an end-effector mounting face)(*3)	J1+J2	±0.02mm				±0.025mm			
	Z	±0.01mm							
	T	±0.005°							
Maximum pressure input		98 N (downward、 1 second or less)							
Maximum allowable moment of inertia		0.25kgm ²	0.45kgm ²	0.25kgm ²	0.45kgm ²	0.25kgm ²	0.45kgm ²	0.25kgm ²	0.45kgm ²
User air piping		4 systems(φ6)							
User signal line		24(for proximity sensor signals, etc.)							
Air source	Normal pressure	0.05 Mpa- 0.35Mpa							
	Maximum allowable pressure	0.59Mpa							
Airborne noise (equivalent continuous A-weighted sound pressure level)		80 dB or less							
Protect grade		Dust & splash proof type : IP65 (option)							
Weight		Approx. 53 - 56kg							

1 An asterisk [] in a model name indicates Z-axis stroke.

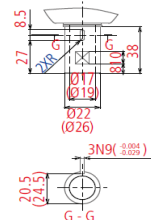
*2 Time required for a robot to move a 2 kg payload between two points 300 mm apart at a height of 25 mm.

*3 Position repeatability is the precision at constant ambient temperature.

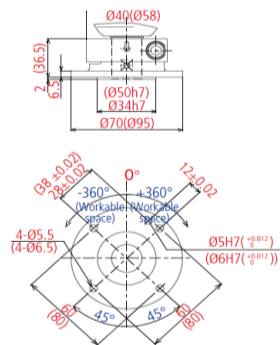
External Dimensions for Standard Type Unit: mm



Detailed drawing of end-effector mounting face (View E)²



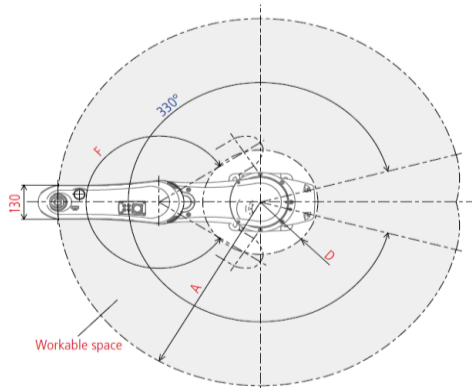
Flange (option)²



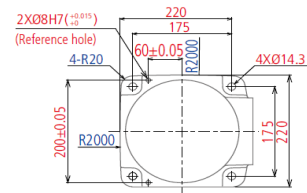
2: The dimensions shown in the drawing are based on a 10 kg load capacity (HM-40**); the dimensions of the end-effector mounting face and flange (option) in parentheses are based on 20 kg load capacity (HM-4A**).

S	L1	L2	L3	
(Z-axis stroke)	10kg	20kg	—	—
200	855	849	350	150
300	955	949	350	50
400 ¹	1055	1049	350	-50

1: If Z-stroke is 400 mm, the lowest point of the Z-axis will achieve a position lower than the base mounting surface.

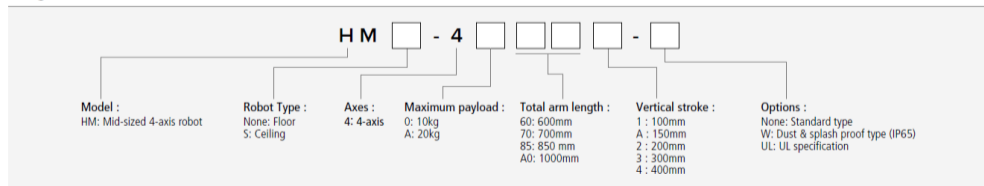


Detailed drawing of base mounting face (Top view)



Model	A	B	C	D	F
HM-4060*, HM-4A60*	600	250	350	213	286°
HM-4070*, HM-4A70*	700	350	350	199	294°
HM-4085*, HM-4A85*	850	350	500	281	294°
HM-40A0*, HM-4AA0*	1000	500	500	284	294°

Legend



Standard Components

Group	Item	Q'ty
Robot & Accessoires	Robot unit	1
	Motor & encode cable (oprion)	1
	Sheet of direction indicator labels	1
	Connector set for hand signals (for CN20 and CN21)	1 set
	Dowel pins (internally threaded positioning pin and diamond-shaped pin)	1 set
Controller & Accessoires	Robot controller	1
	Power cable (5m)	1
	Pendantless conector (Dummy connector)	1
	Cable clamp	1
Software etc.	WINCAPS III trial version installer disc	1
	Manuals ("Manual Pack disc" and "Safety Precautions")	1 set
	Warning label	1