

Standard specifications

KJ194UTE35
KJ194UVE35

1st Edition : August 10, 2018

KAWASAKI HEAVY INDUSTRIES, LTD.
ROBOT DIVISION

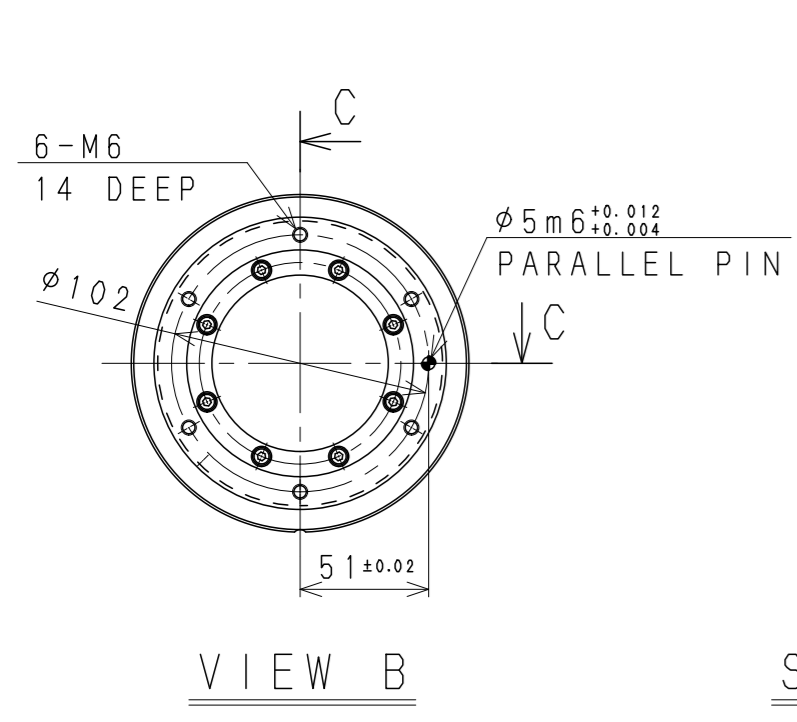
Specification :	90101-2539DEA
(Arm) :	90151-0081DEC
(Controller) :	90152-0059DEA

1. Specification of Robot

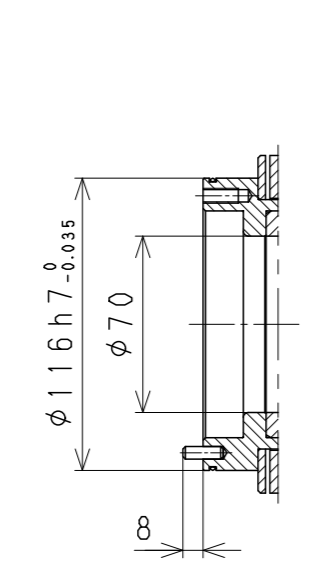
[1] Robot Arm (KJ194U)

1. Model	Installation mode	Fix Installation		Flexible Installation		
		Standard	Mirror	Standard	Mirror	
	Floor	KJ194U-B4	KJ194U-B5	KJ194U-B0	KJ194U-B1	
	Mounting wall is left side	KJ194U-D4	KJ194U-D5	KJ194U-D0	KJ194U-D1	
	Mounting wall is right side	KJ194U-F4	KJ194U-F5	KJ194U-F0	KJ194U-F1	
Shelf	KJ194U-H4	KJ194U-H5	KJ194U-H0	KJ194U-H1		
2. Type	Articulated robot					
3. Degree of freedom	6 axes					
4. Axis specification	Operating axis		Max. operating range			
	Arm rotation (JT1)		KJ194U-B□	+120° ~ -120°		
			KJ194U-D□	+120° ~ -30°		
			KJ194U-F□	+30° ~ -120°		
			KJ194U-H□	+120° ~ -120°		
	Arm out-in (JT2)		+130° ~ -80°			
	Arm up-down (JT3)		+90° ~ -65°			
	Wrist roll (JT4)		+720° ~ -720°			
Wrist roll (JT5)		+720° ~ -720°				
Wrist roll (JT6)		+410° ~ -410°				
5. Repeatability	±0.5 mm (at the tool mounting surface)					
6. Max. payload	Wrist : 15 kg (at the tool mounting surface)					
	Upper arm : 25 kg (on the Upper Arm :Include painting equipments in pressurized compartment)					
7. Max. painting speed	1500 mm/s (at the center of tool mounting surface)					
8. Load capacity of wrist			Max. torque	Moment of inertia*		
	JT4		56.2 N·m	2.19 kg·m ²		
	JT5		43.4 N·m	1.31 kg·m ²		
	JT6		22.0 N·m	0.33 kg·m ²		
	Note* Each value in this table shows allowable payload moment of inertia of JT4/JT5/JT6 when max. allowed torque is applied to each axis. If more detailed data is required for your application, please contact Kawasaki.					
9. Driving motor	Brushless AC Servomotor					
10. Working range	See attached drawing					
11. Mass	KJ194U-B□		530 kg (without options)			
	KJ194U -D□ , -F□ , -H□		520 kg (without options)			
12. Color	Munsell 10GY9/1 equivalent					
13. Installation	KJ194U-B□(Floor)		KJ194U-D□(Mounting wall is left side)			
	KJ194U-F□(Mounting wall is right side)		KJ194U-H□(Shelf)			
	KJ194U-□4 , KJ194U-□5		Fix Installation (install on fixed plane)			
	KJ194U-□0 , KJ194U-□1		Flexible Installation (install on traverse unit)			
14. Environment cond.	(Temperature) 0 ~ 40 °C, (Humidity) 35 ~ 85 %, no dew, nor frost allowed					
15. Explosion proof	Pressurized and intrinsically safe					
16. Air supply to the manipulator	Clean & dry air : 0.5 Nm ³ /min, 0.4~0.7 MPa					
	Dew point : -17 °C or less at atmospheric pressure.					
	Solid material : 0.01 μm or less					
	Oil content : Mist separation 99.9999% or more					
17. Options	Adjustable Mechanical Stopper : JT1/JT2/JT3					
	Painting equipment					
	FGP motor (1 unit can be equipped with)					
	Solenoid valve for painting (up to 3 units can be equipped with)					
	Electro pneumatic converter for painting (up to 3 units can be equipped with)					
	Upper Arm cover					
18. Others	Consult Kawasaki about maintenance parts and spare parts.					

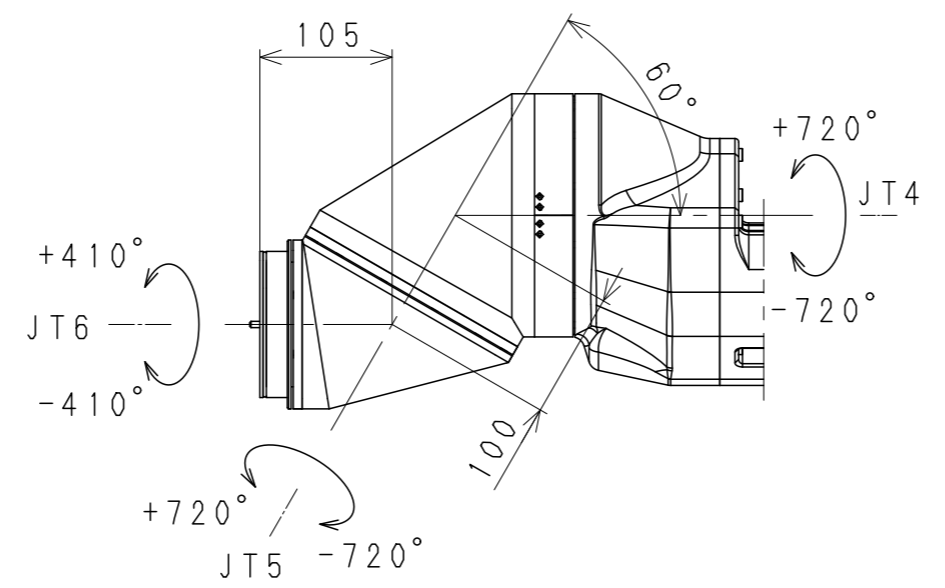
[2] Controller				
1. Model	E35/E37			
2. Enclosure	Enclosed structure / Indirect cooling system			
3. Dimensions	See attached drawing			
4. Number of controlled axes	6 axes 7/8/9 axes(built-in addition, option)			
5. Servo control and drive system	Full Digital Servo System			
6. Type of control	Teach mode	Joint, Base, Tool, Fixed Tool (option) operation mode		
	Repeat mode	PTP, CP control mode Joint, Linear, Circular (option) interpolation		
7. Teaching method	Teaching or AS language programming			
8. Memory capacity	8 MB			
9. External operation signals	External Motor Power Off, External Hold, etc.			
10. General purpose signals	Input signals	32 channels (Includes dedicated signals)		
	Output signals	32 channels (Includes dedicated signals)		
11. Operation panel	Basic Operation Switches (Teach/Repeat SW, Emergency Stop SW, Control power lamp)			
12. Cable length	Power/Signal cable in non hazardous area	3 m		
	Power/Signal cable in hazardous area	3 m		
	Teach Pendant cable	10 m		
13. Mass	See attached drawing			
14. Power requirement	AC 440 - 480 V±10%, 60 Hz, 3 phases, Max 5.1 kVA(E37), Max 7.3 kVA(E35)			
15. Ground	PE (Standard for Robots) Leakage current: max. 10 mA			
16. Ambient temperature	0 - 45 °C			
17. Relative humidity	35 - 85 % (non-condensation)			
18. Color	Munsell: 10GY9/1 equivalent			
19. Ex. Light Weight Teach Pendant	Intrinsically safe construction, Color display (5.7 inch TFT LCD) with touch panel Emergency Stop, Teach Lock and Enable Switches			
20. Options	General purpose signals	Input signals	64/96/128 channels (Includes dedicated signals)	
		Output signals	64/96/128 channels (Includes dedicated signals)	
	I/O connector	D-SUB 37pin(male,female) with cover		
	Operation panel	Motor Power ON, Cycle start, RUN/HOLD, Error reset, Error lamp		
	Power/Signal cable	in non hazardous area	5,7,10,15,20,25,30m	} Total length: max. 40 m
		in hazardous area	1,5,7,10,15m	
	Teach Pendant cable	3,5,7,10,15,20,25,30m		
	Teach pendant Connector Box	in non hazardous area	1,3,5,7,10,15m	} Total length: max. 30 m
		in hazardous area	1,3,5,7,10,15m	
	Power requirement	AC 380 - 415 V, AC 440 - 480 V, AC 515 V, AC 575 V ±10%, 50/60 Hz, 3 phases, Max 7.3 kVA(E35/E37)		
	Auxiliary storage	USB memory		
	AC Outlet	AC110 - 120V Outlet (depends on Primary input voltage)		
	PC cable	1.5m, 3m		
	Teach Pendant option	Cable hook, connector for TP less		
Others	LED Light, Field BUS, Software PLC, Analog input/output, Conveyor Synchronization, Paint Equipment Control and so on			
21. Others	Consult Kawasaki about maintenance parts and spare parts.			



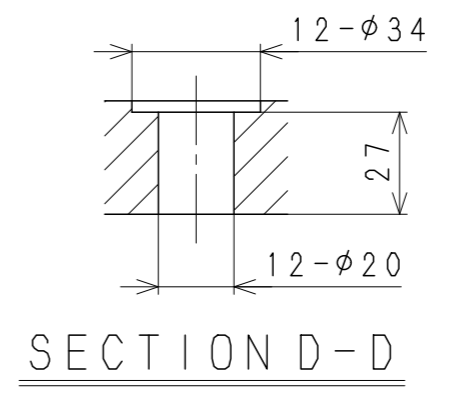
VIEW B



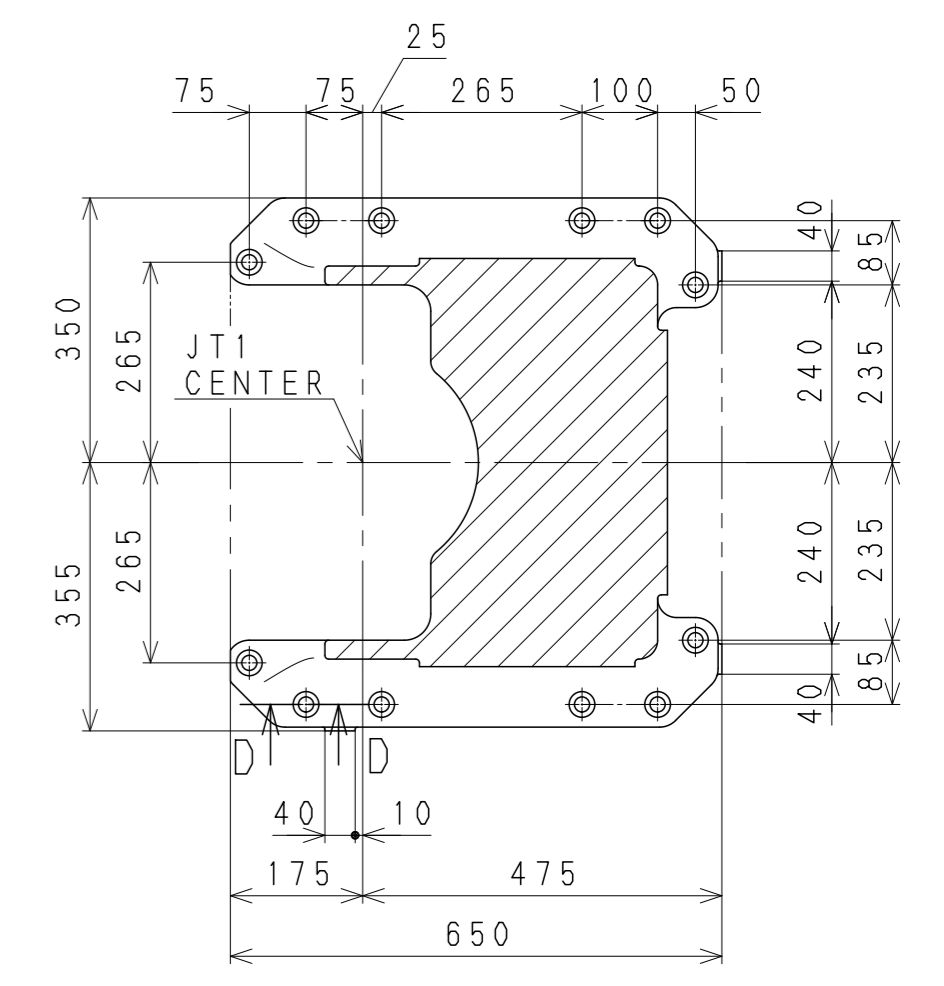
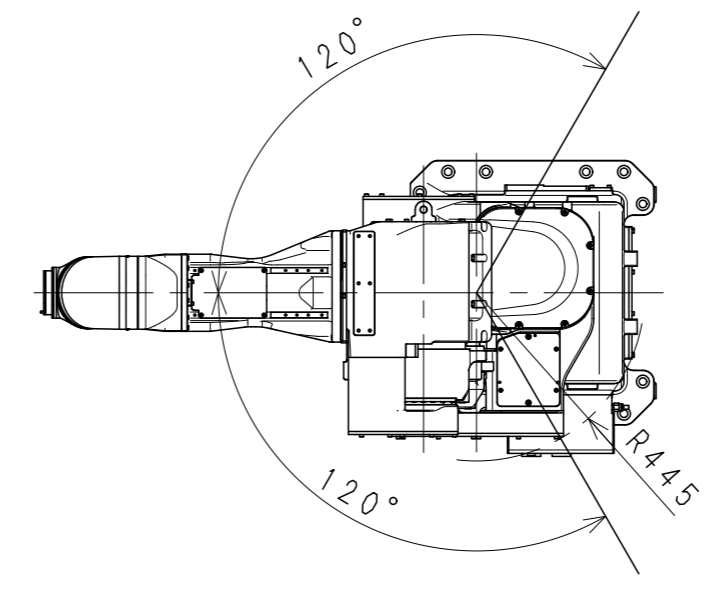
SECTION C-C



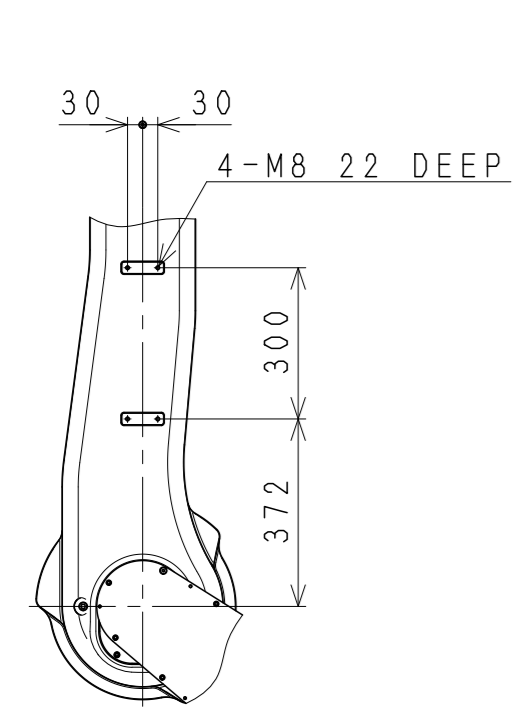
DETAIL A



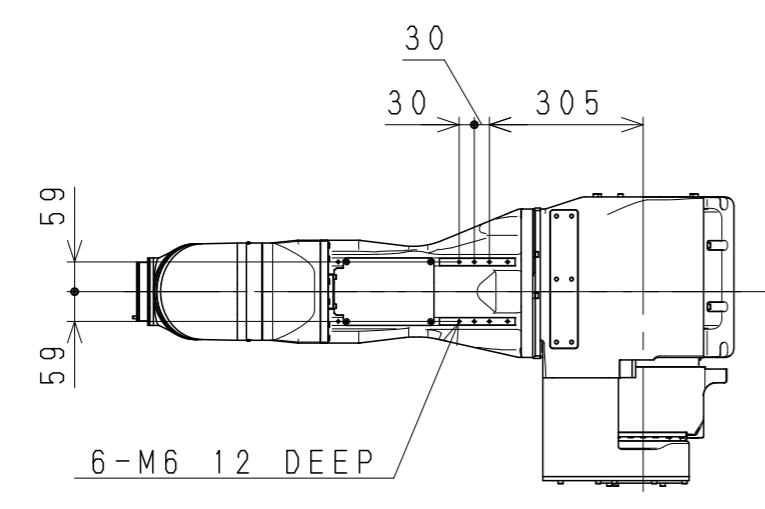
SECTION D-D



Base Installation Dimensions

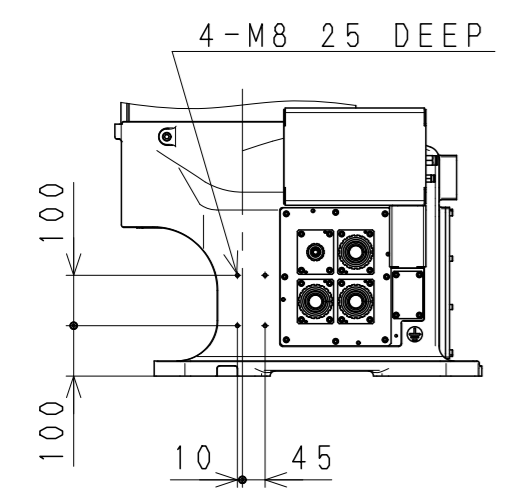
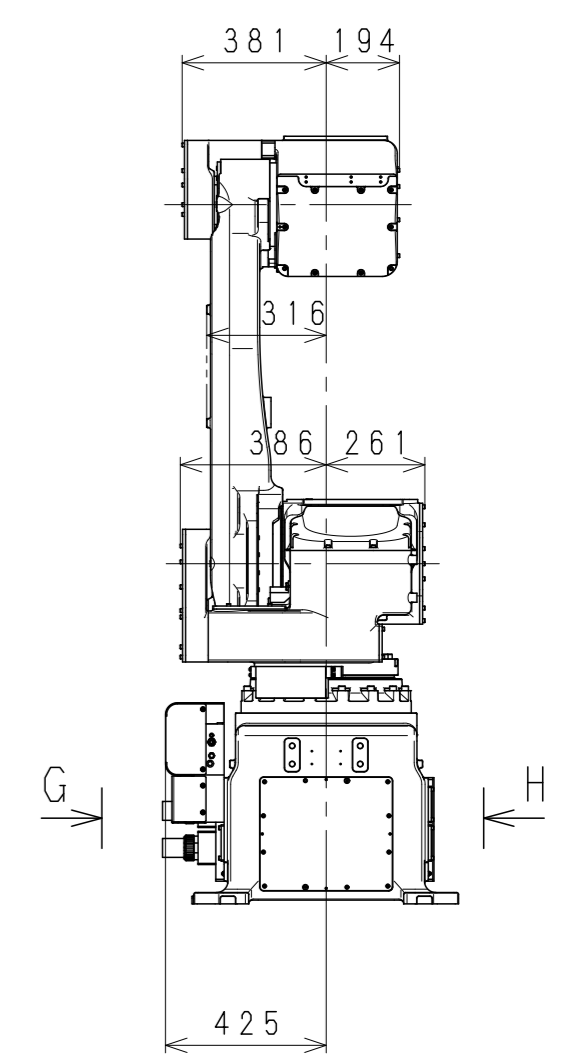
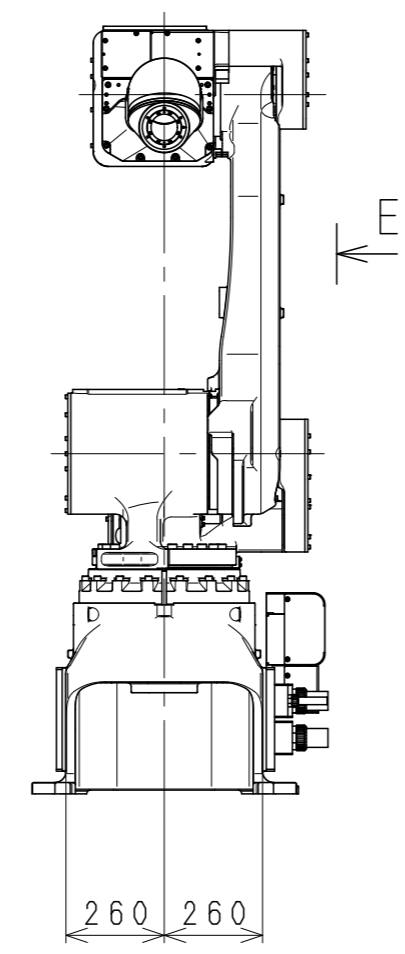
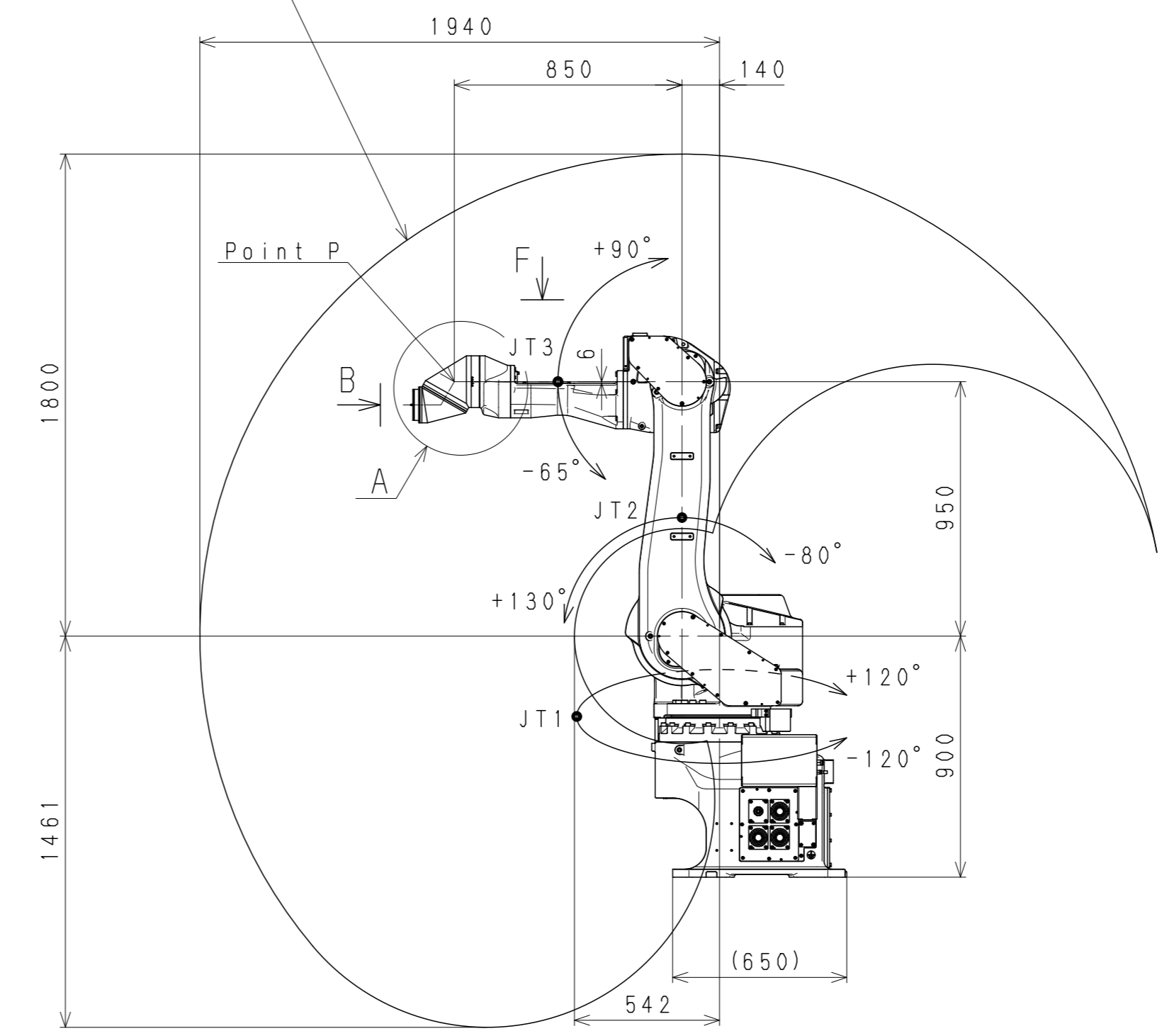


VIEW E

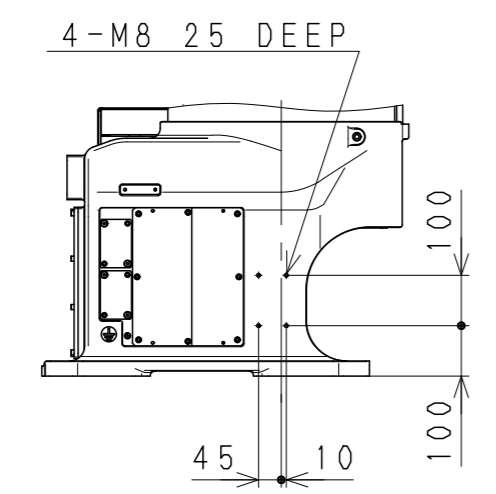


VIEW F

Working range based on point P

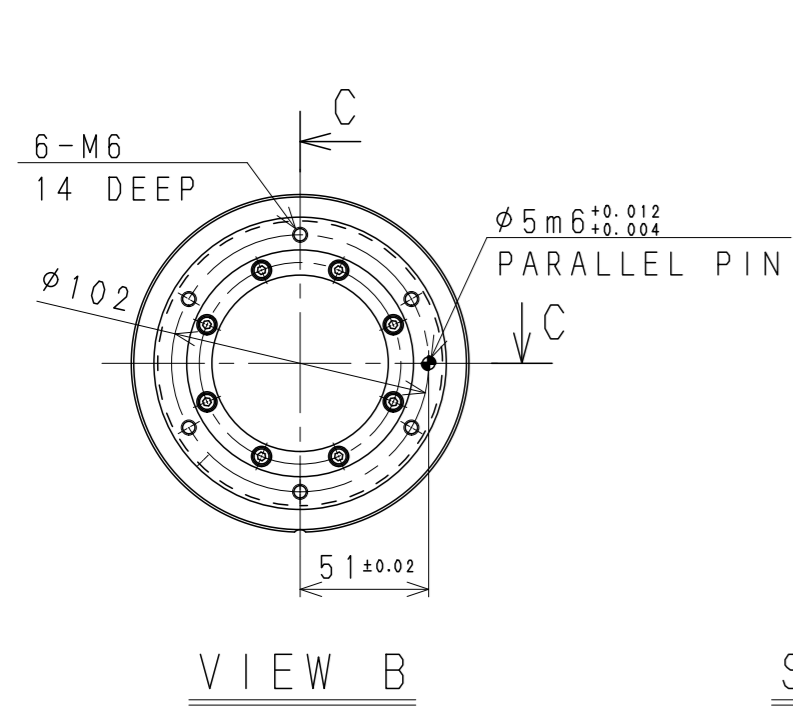


VIEW G

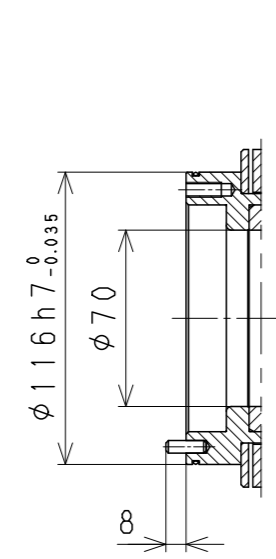


VIEW H

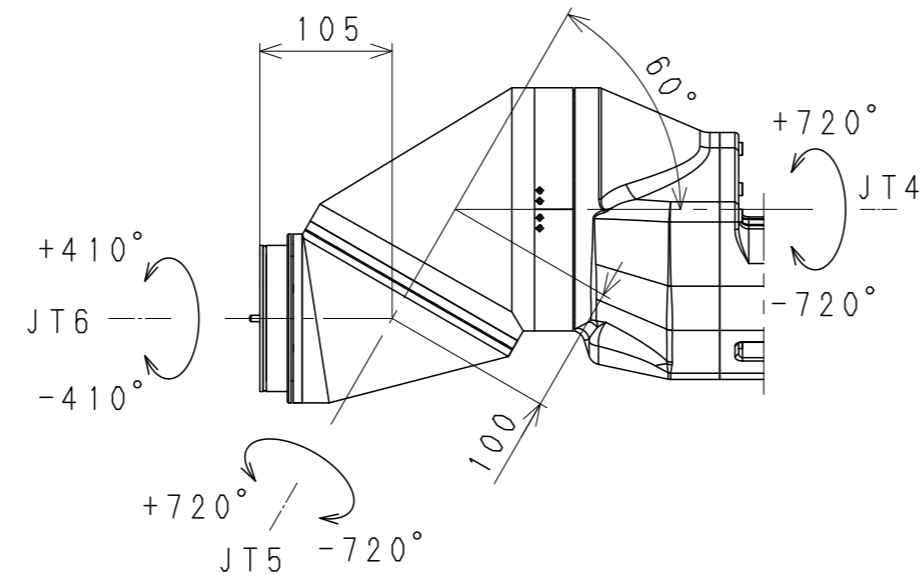
KJ194U-B0
(FLEXIBLE INSTALLATION)
WORKING RANGE



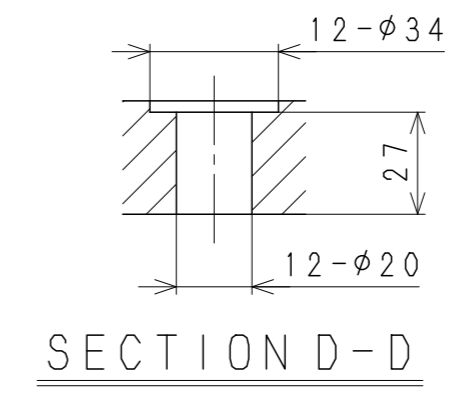
VIEW B



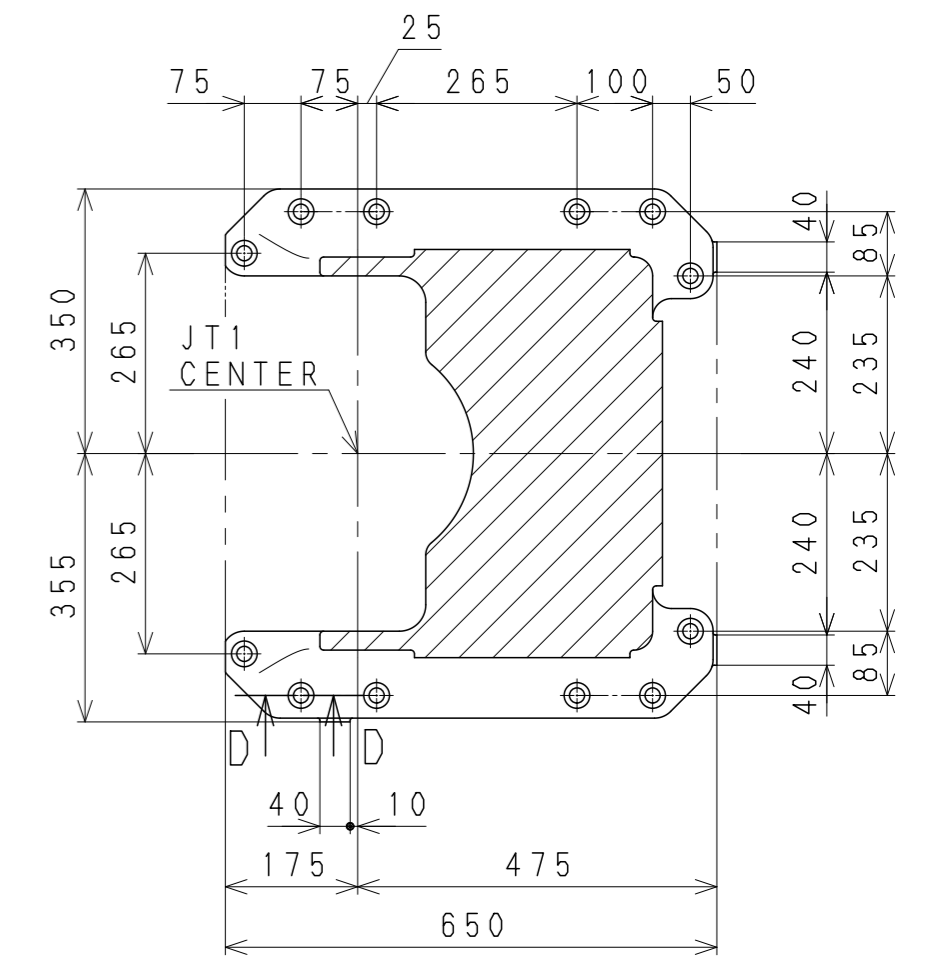
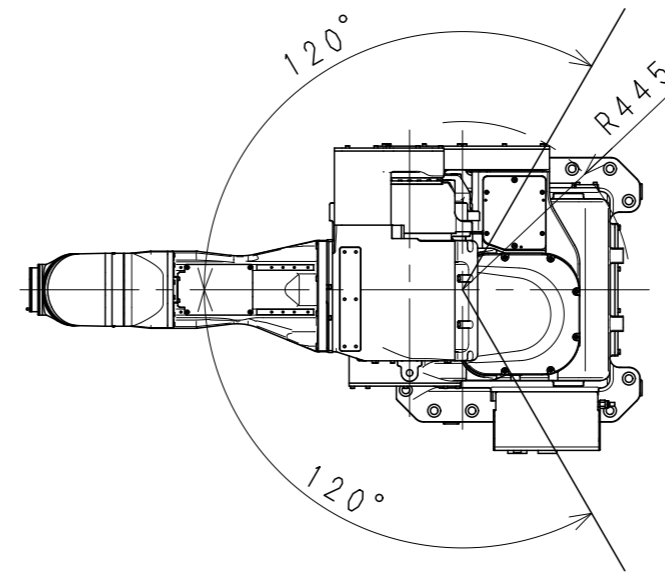
SECTION C-C



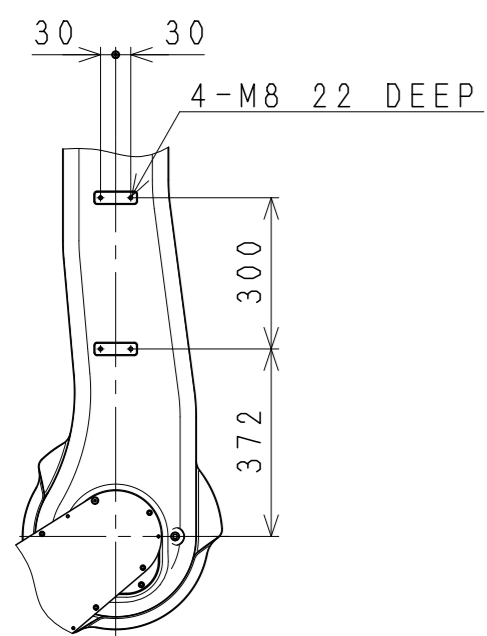
DETAIL A



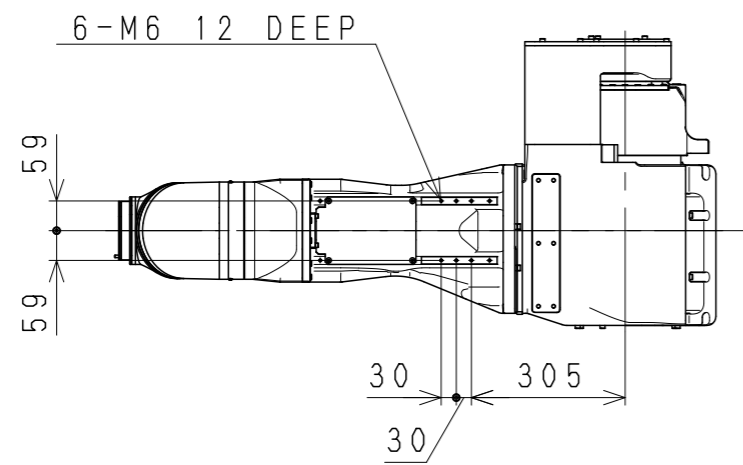
SECTION D-D



Base Installation Dimensions

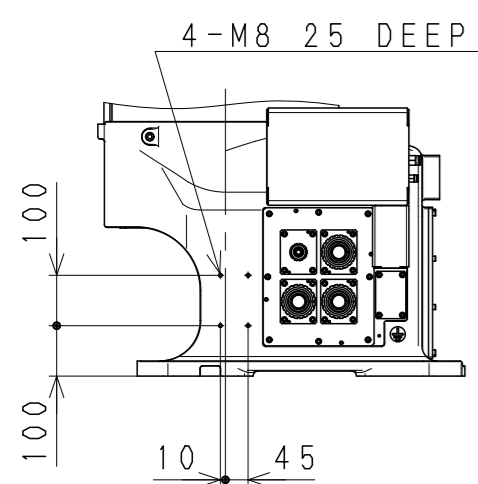
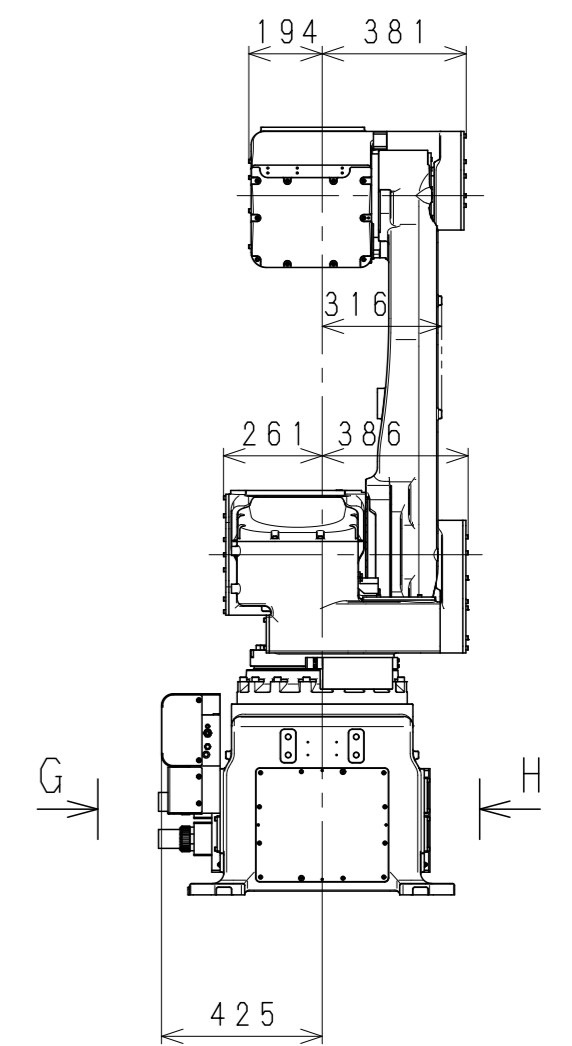
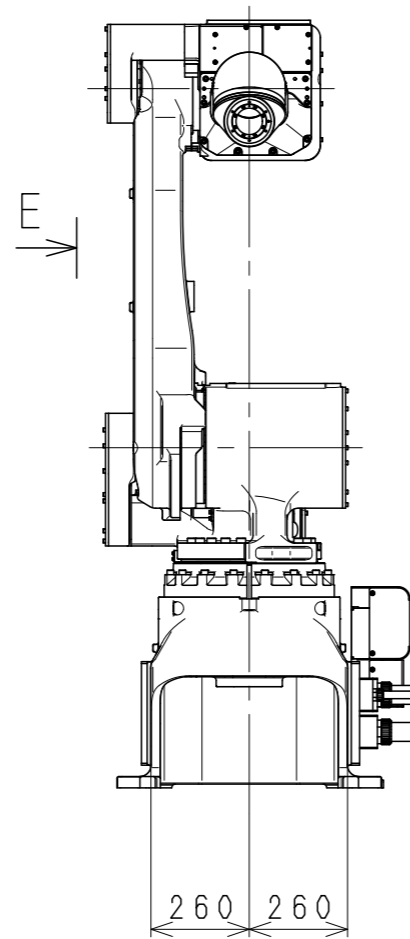
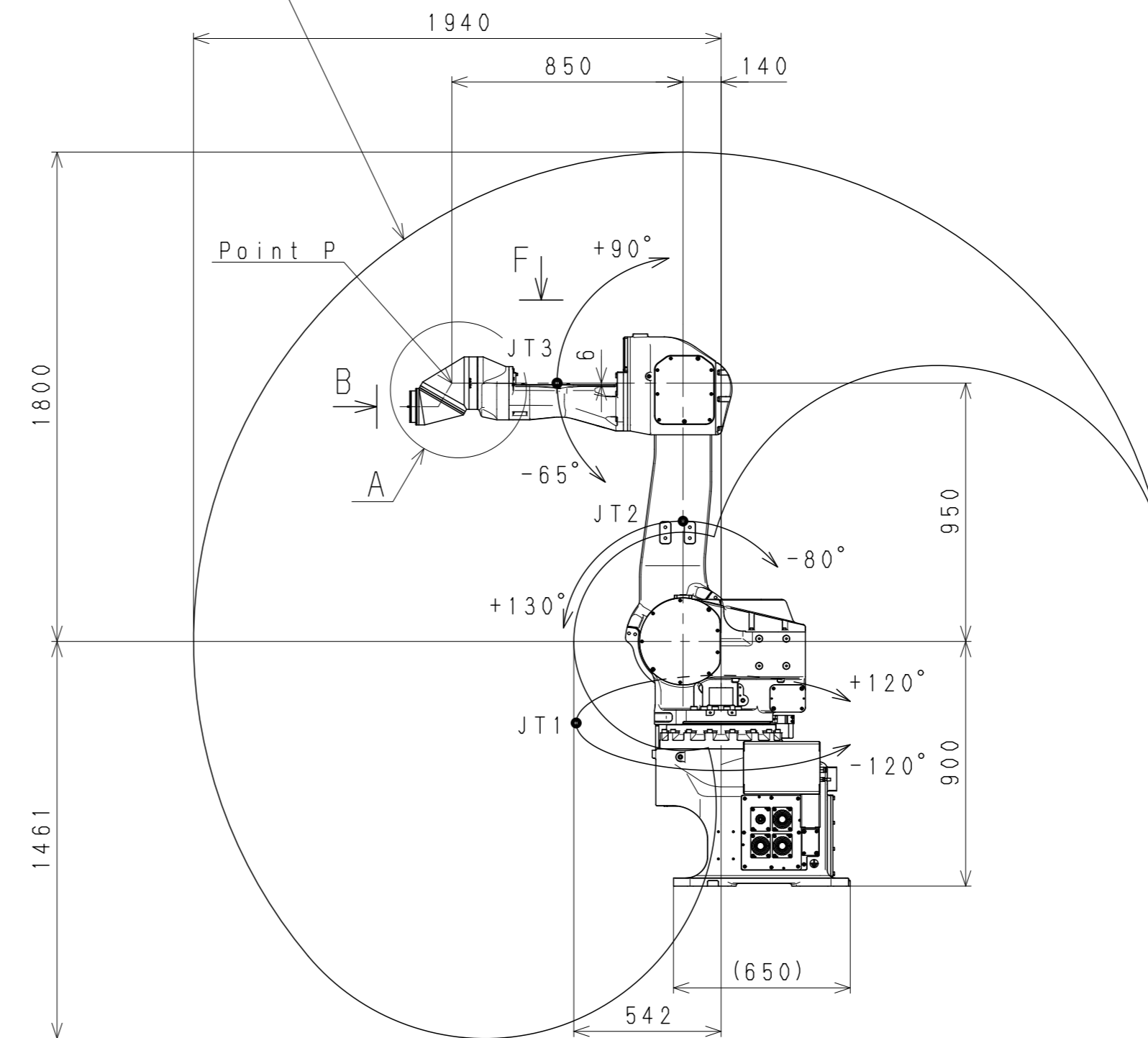


VIEW E

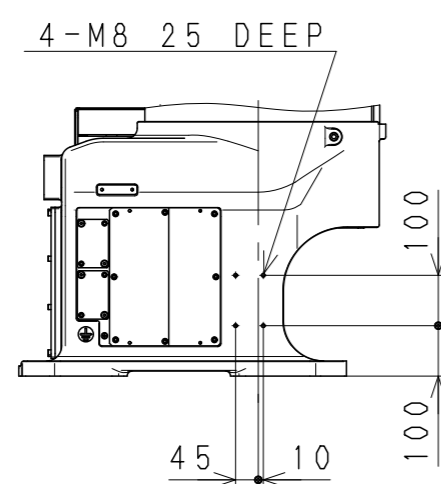


VIEW F

Working range based on point P

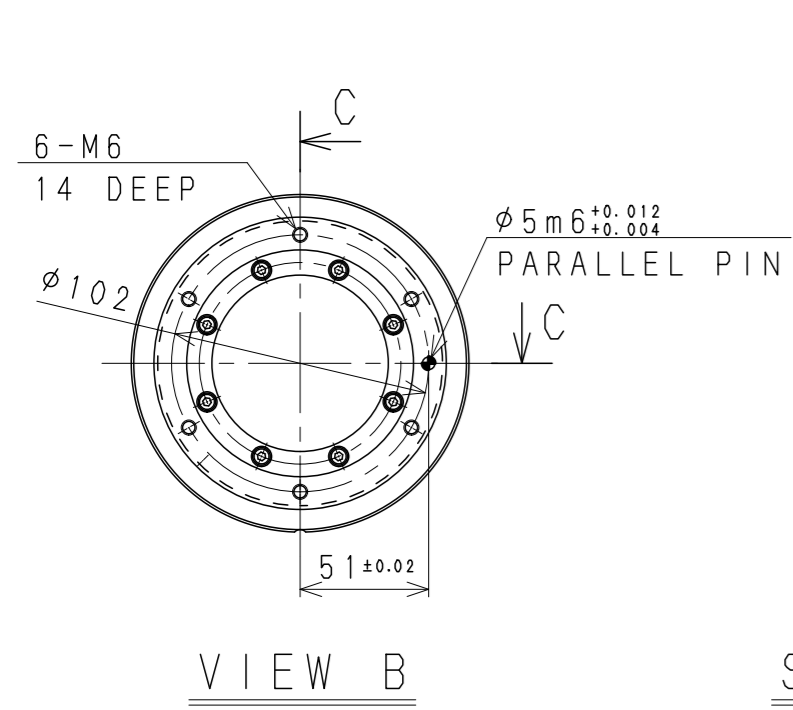


VIEW G

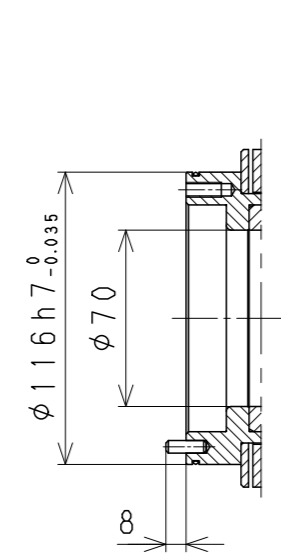


VIEW H

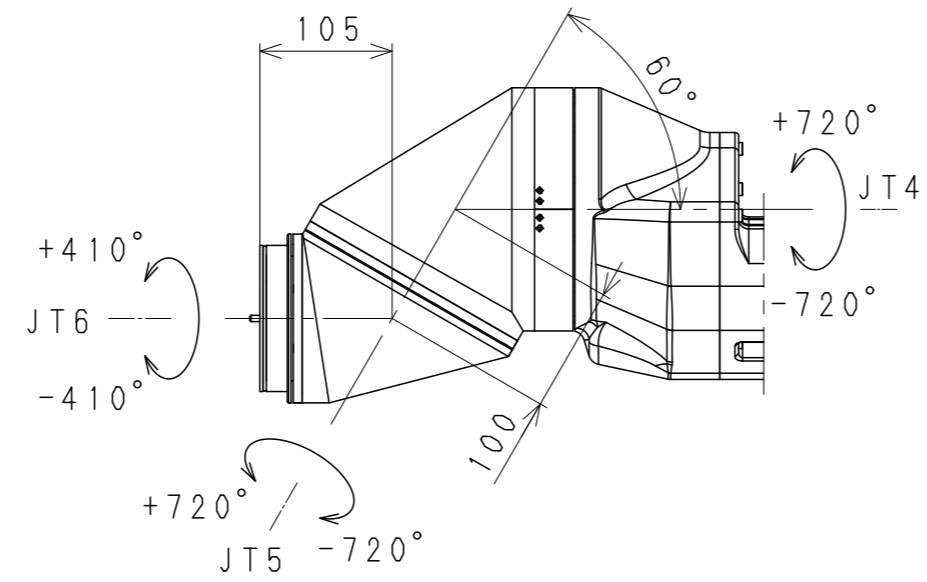
KJ194U-B1
(FLEXIBLE INSTALLATION)
WORKING RANGE



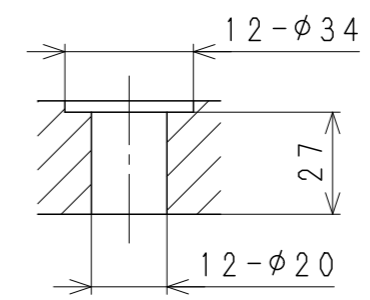
VIEW B



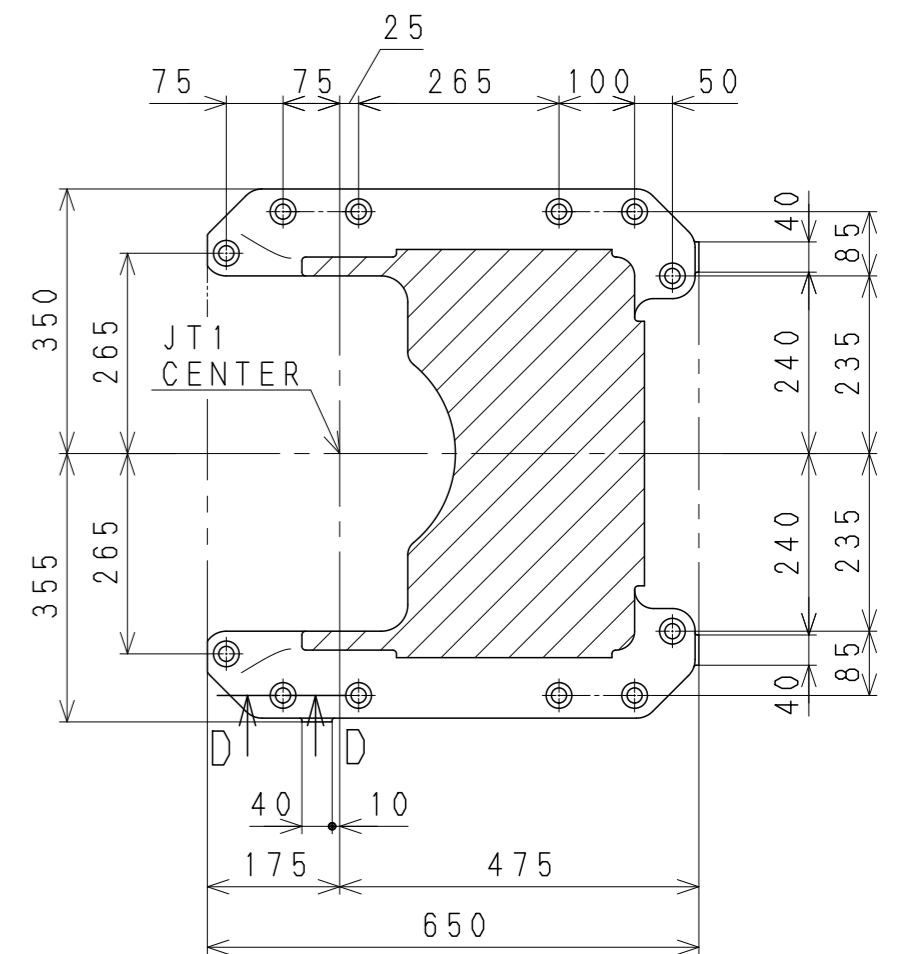
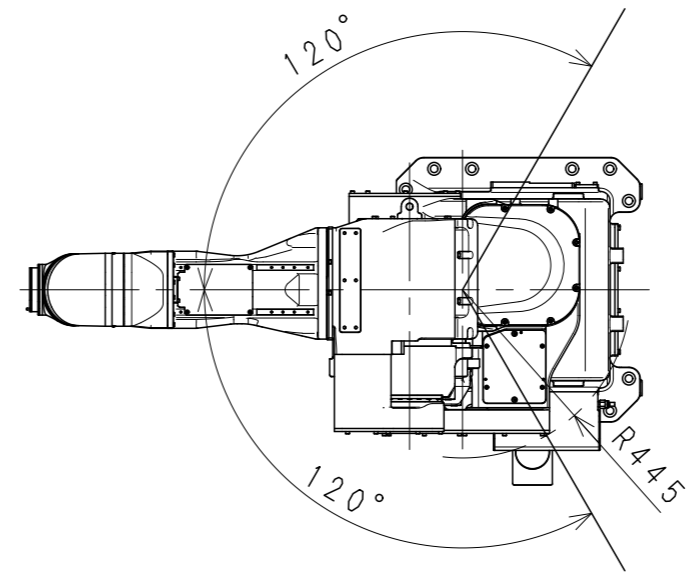
SECTION C-C



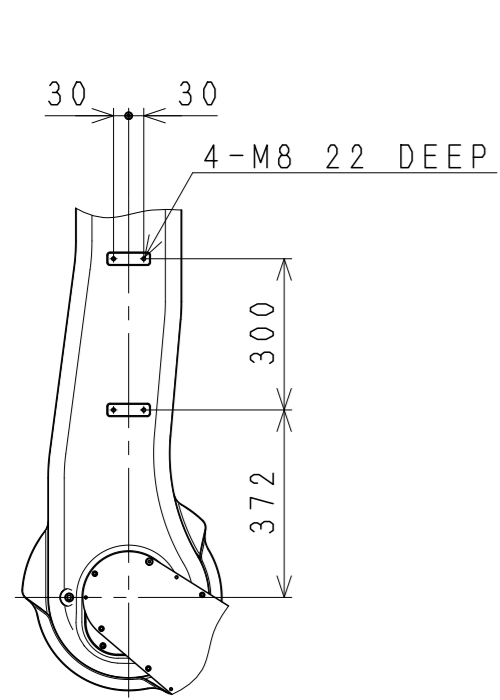
DETAIL A



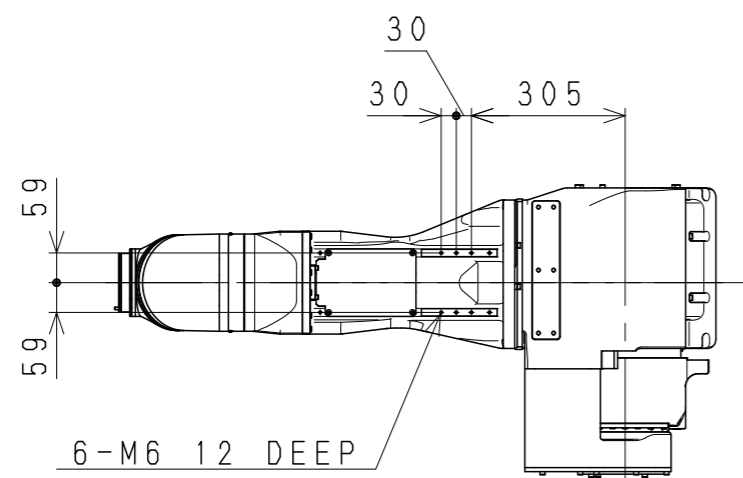
SECTION D-D



Base Installation Dimensions

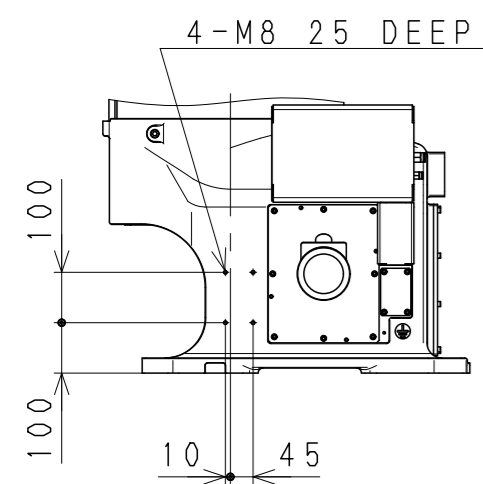
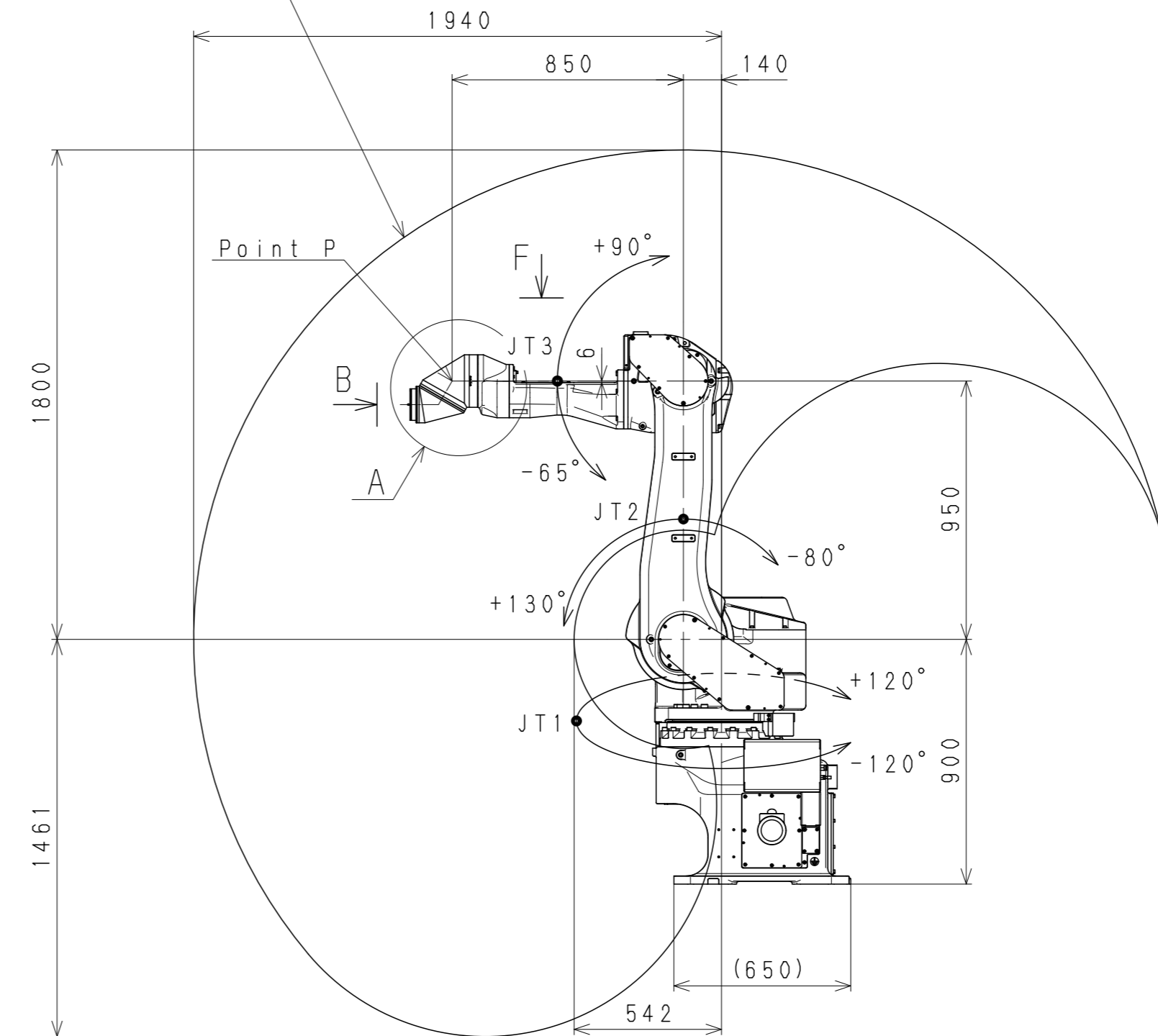


VIEW E

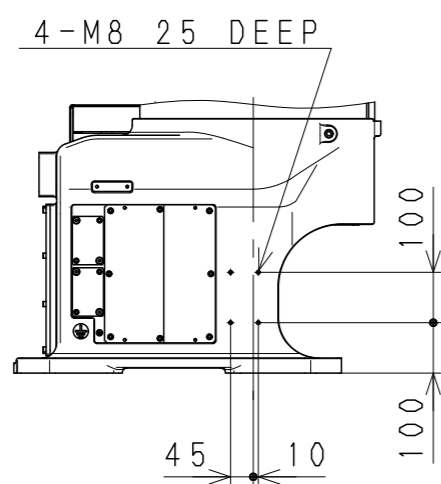


VIEW F

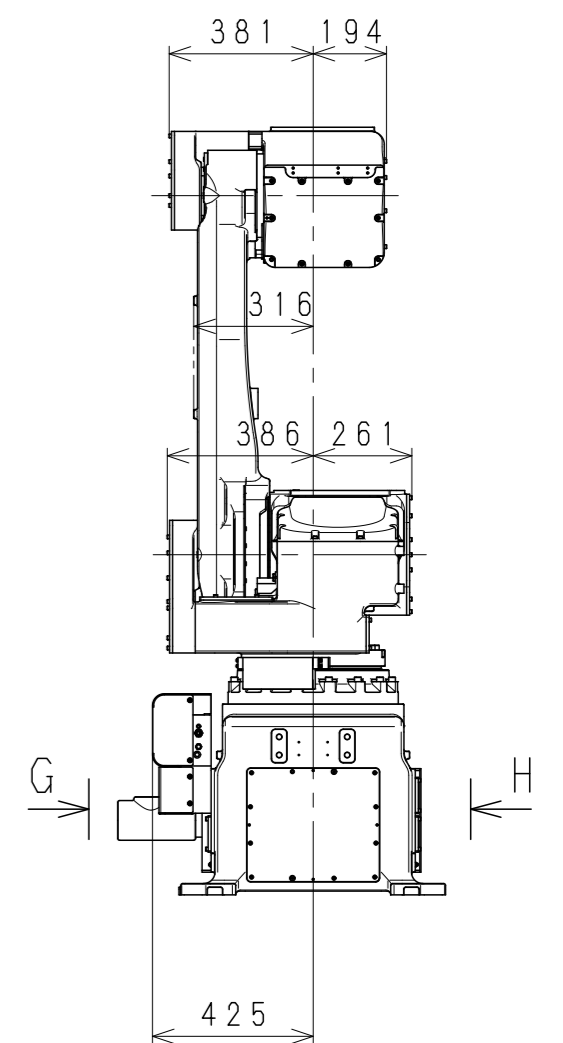
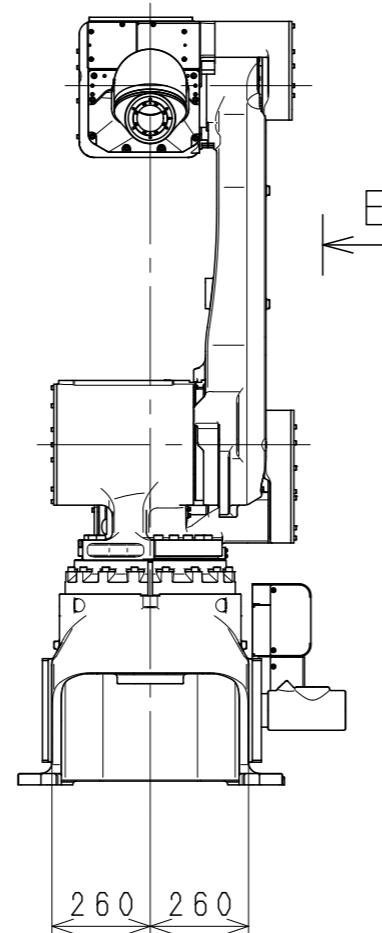
Working range based on point P



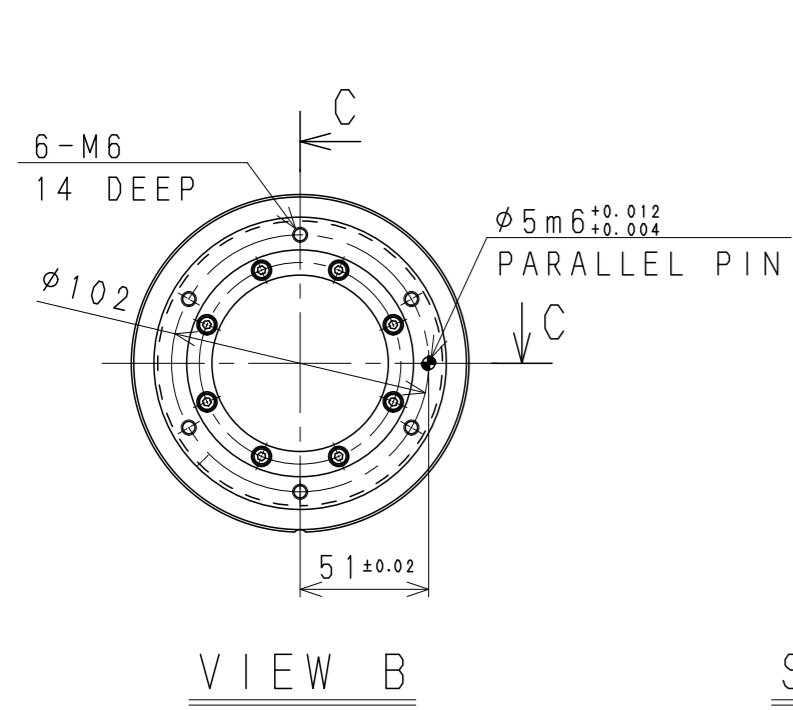
VIEW G



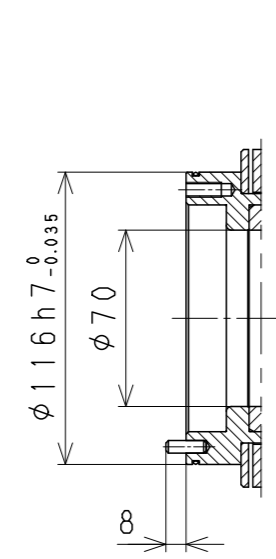
VIEW H



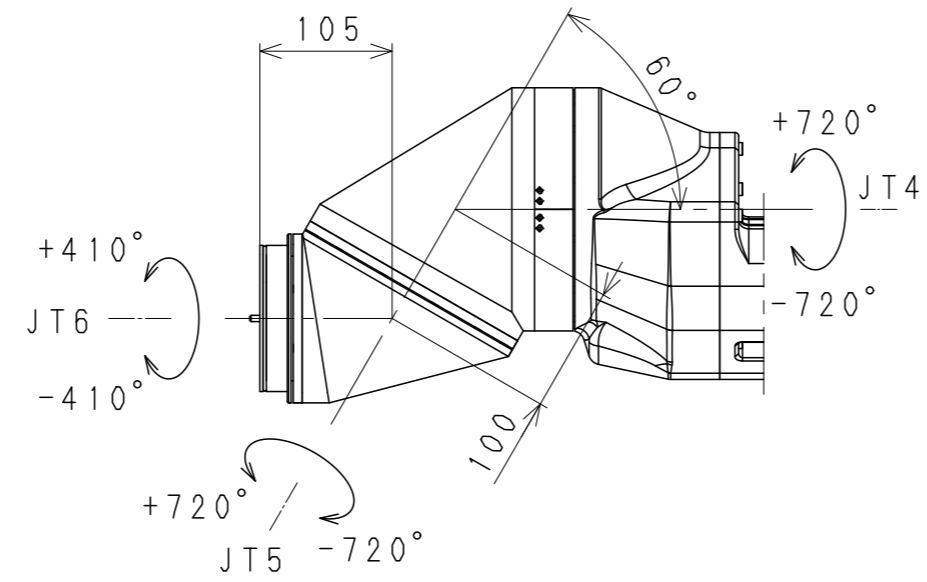
KJ194U-B4
(FIX INSTALLATION)
WORKING RANGE



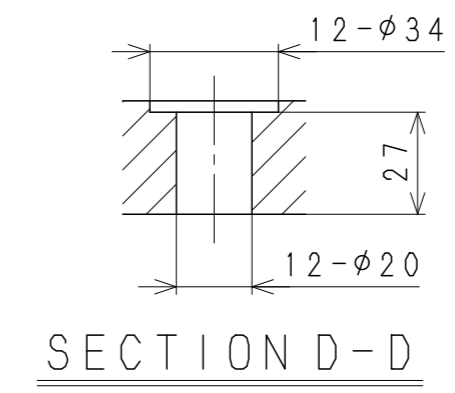
VIEW B



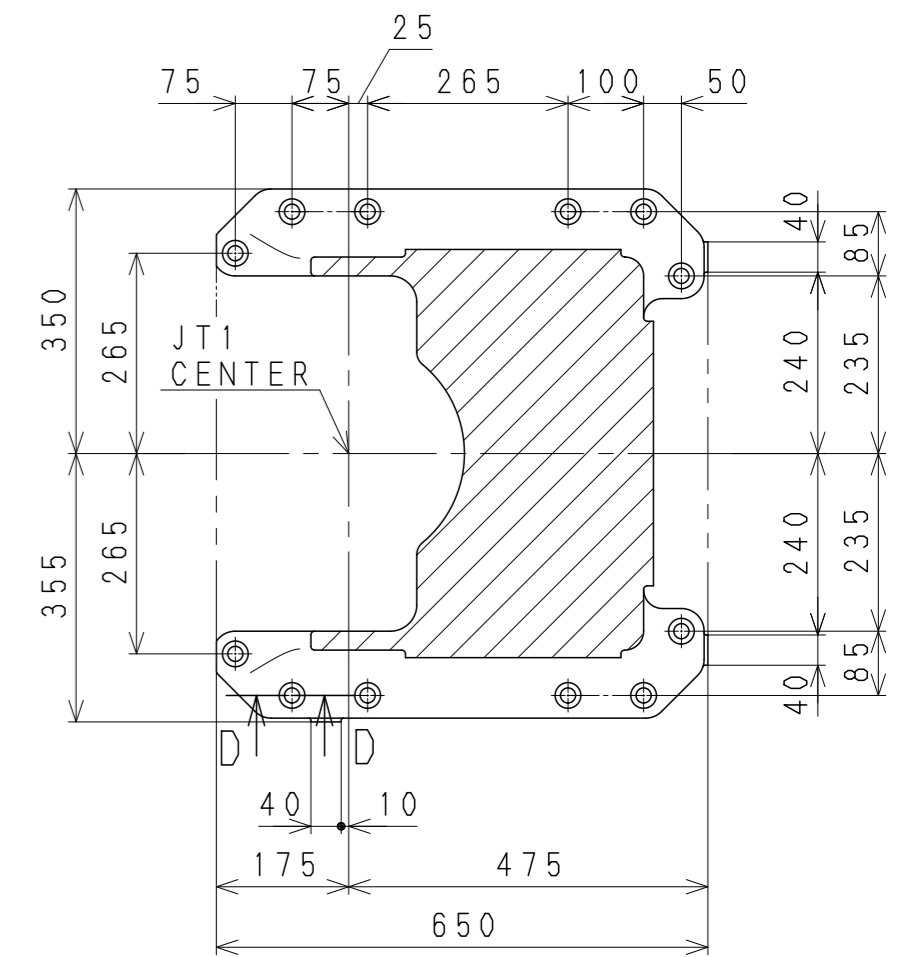
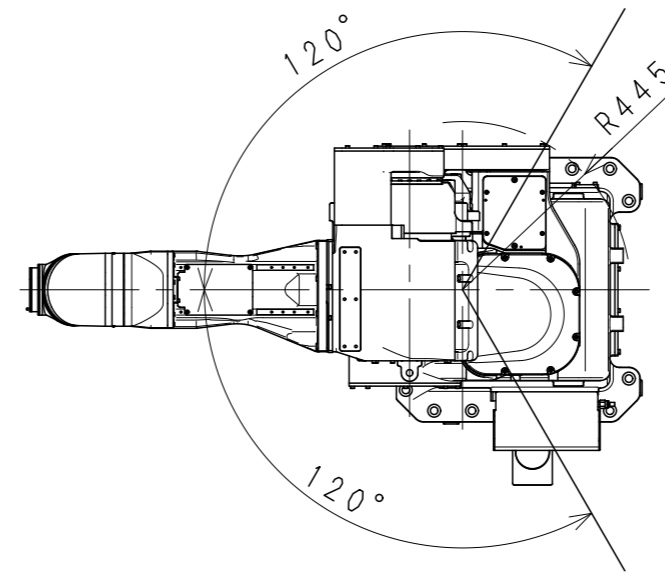
SECTION C-C



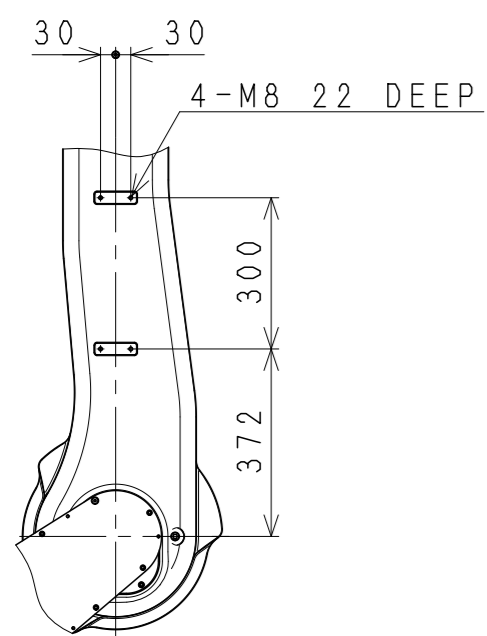
DETAIL A



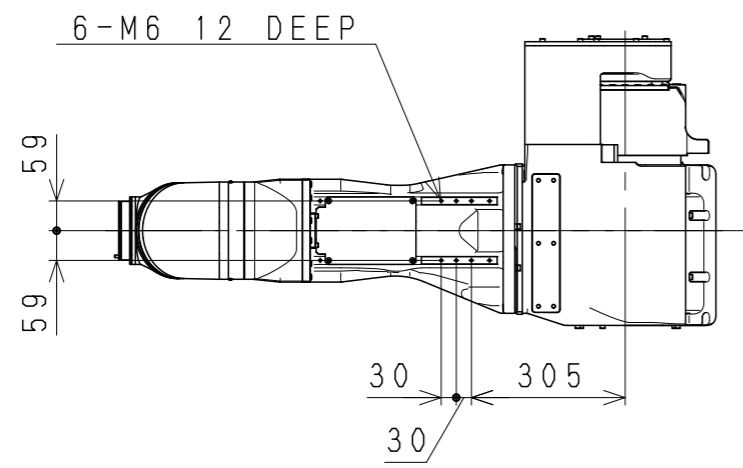
SECTION D-D



Base Installation Dimensions

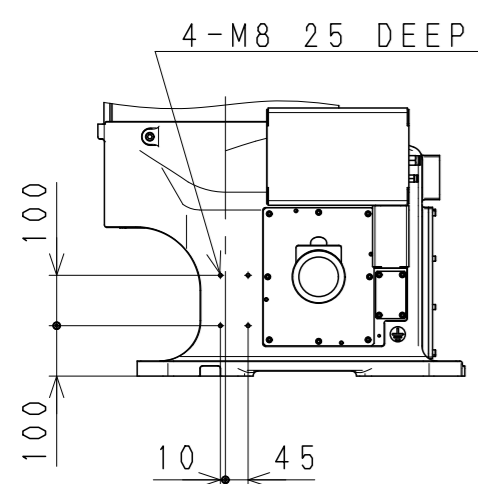
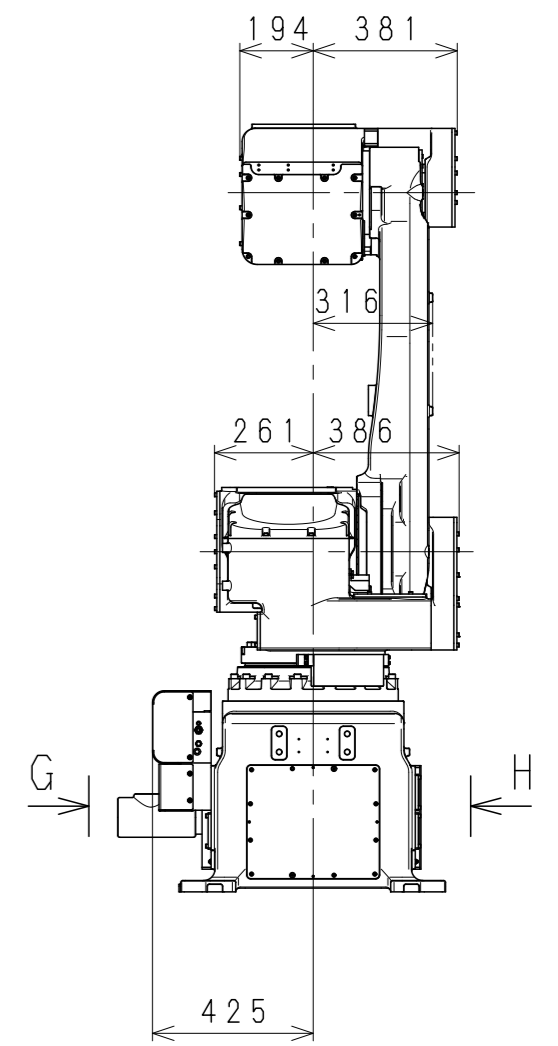
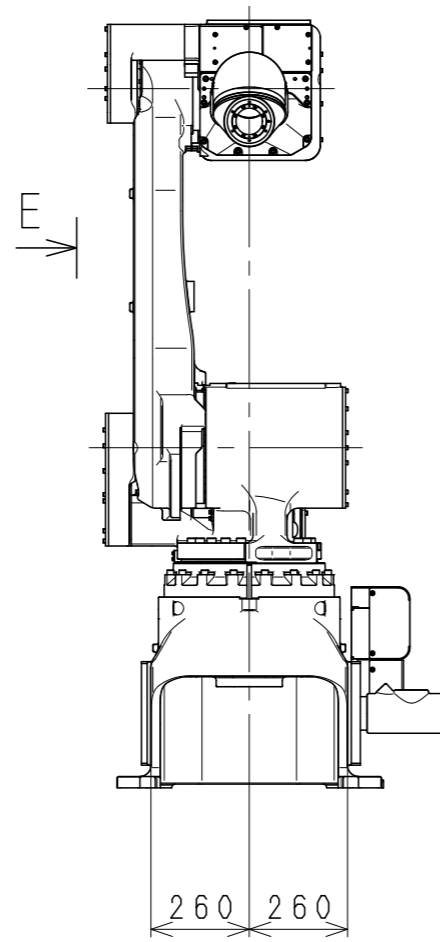
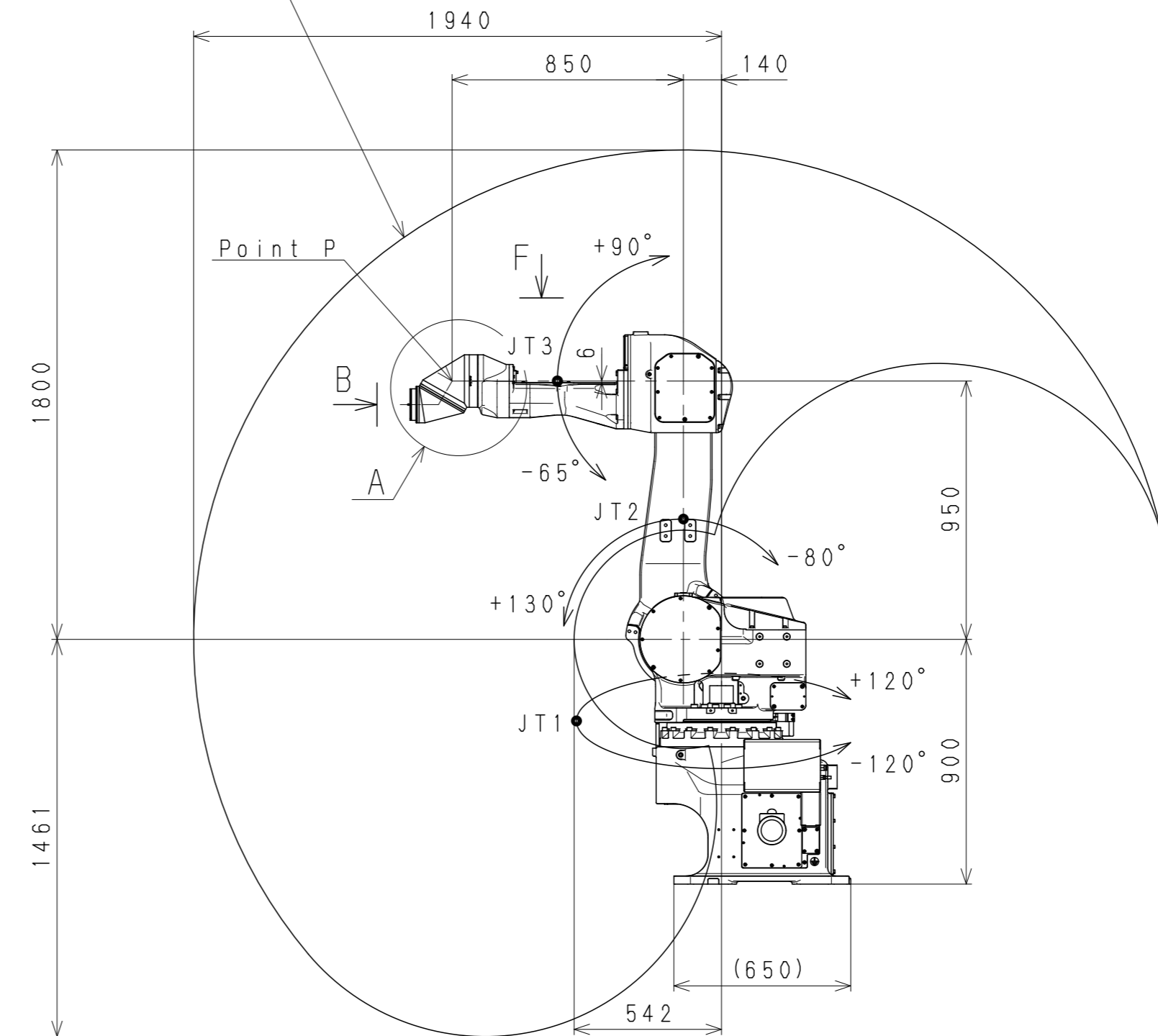


VIEW E

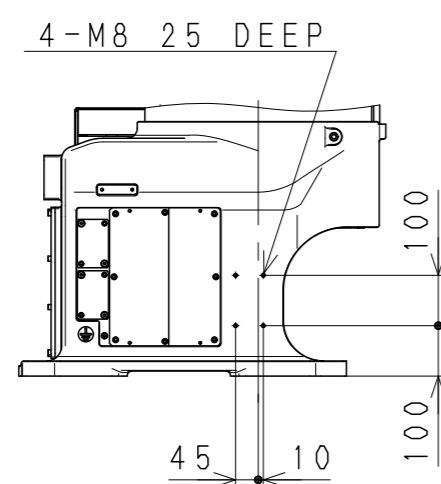


VIEW F

Working range based on point P

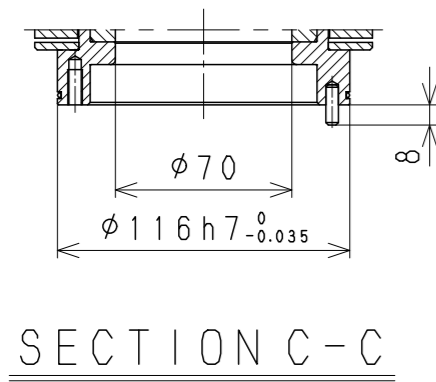


VIEW G

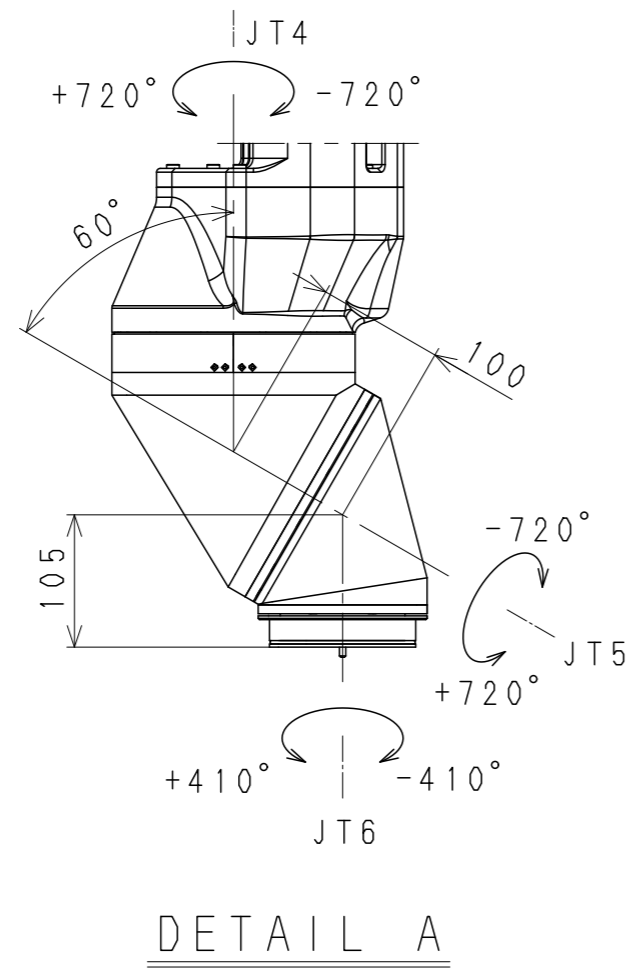


VIEW H

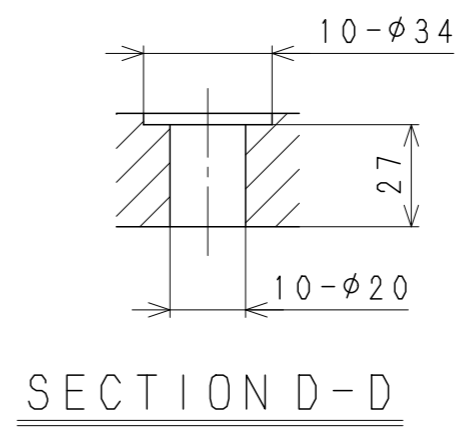
KJ194U-B5
(FIX INSTALLATION)
WORKING RANGE



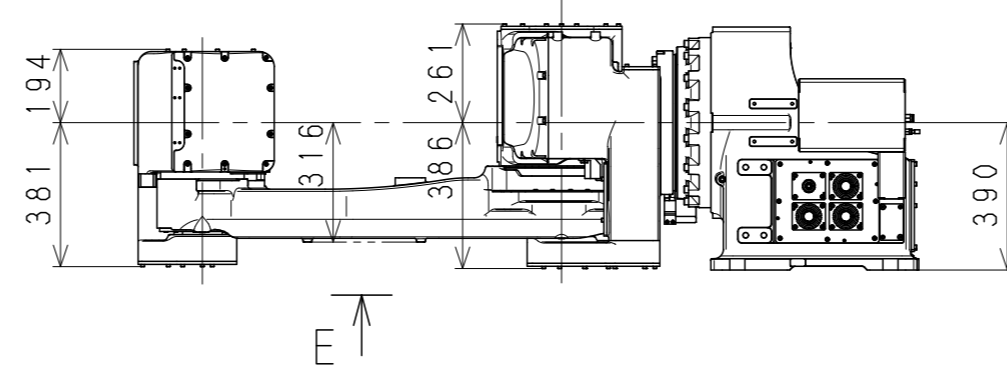
SECTION C-C



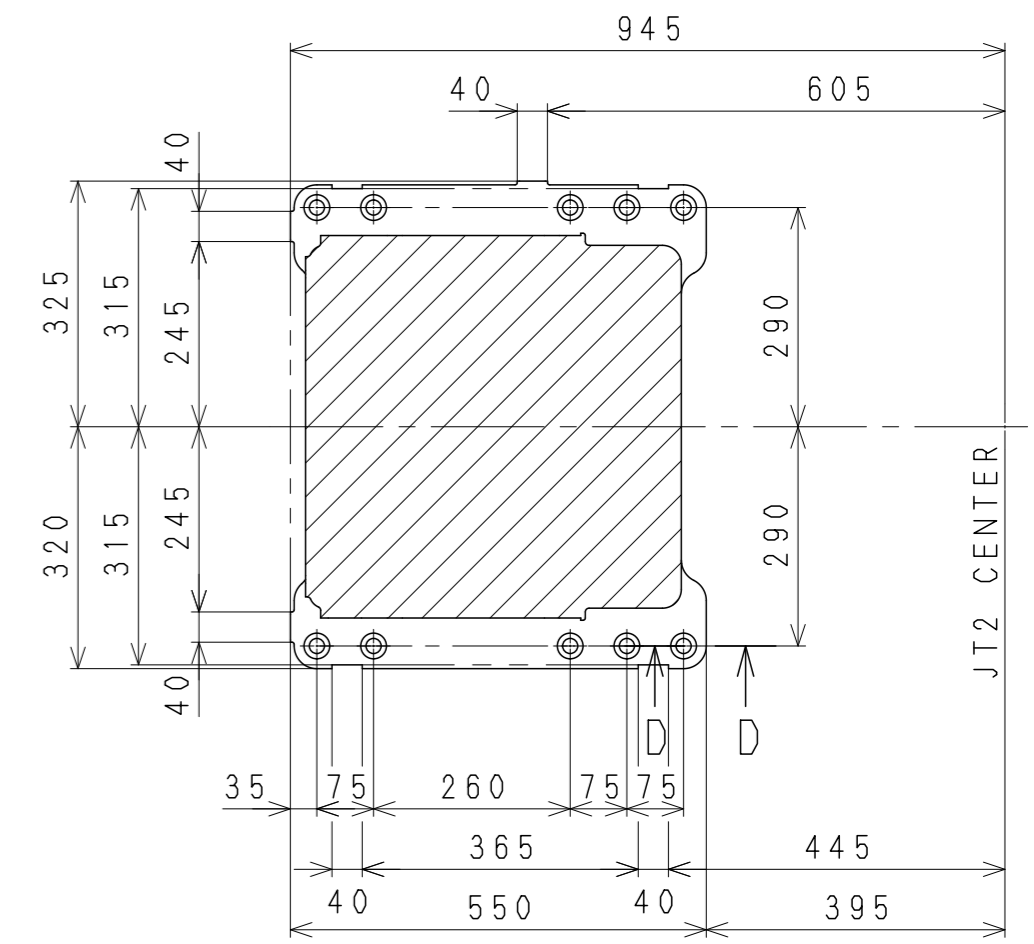
DETAIL A



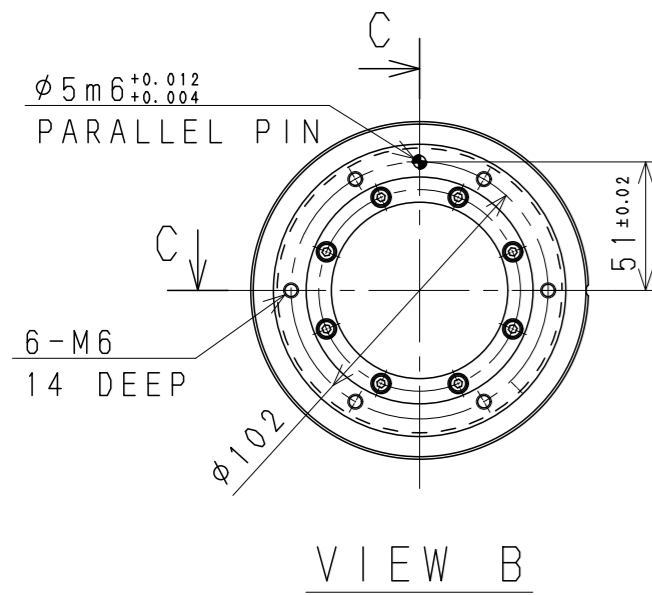
SECTION D-D



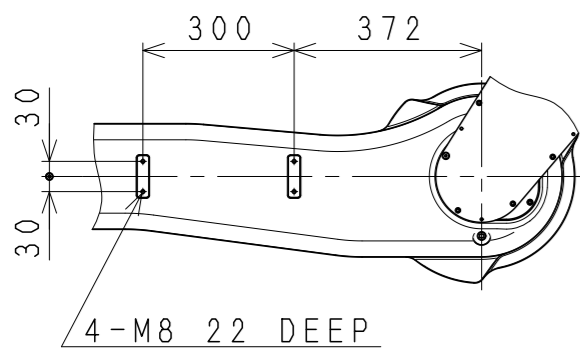
E



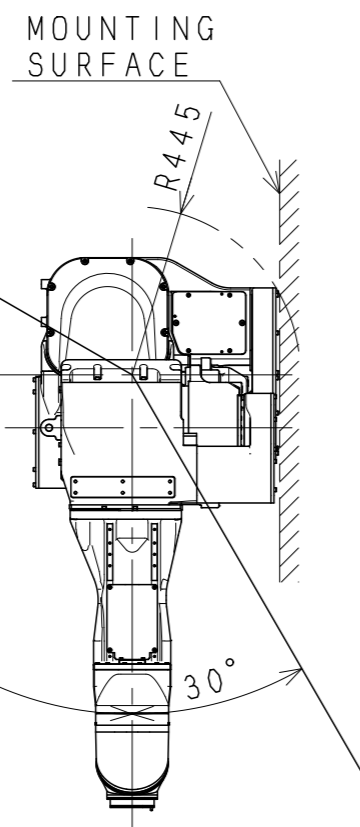
Base Installation Dimensions



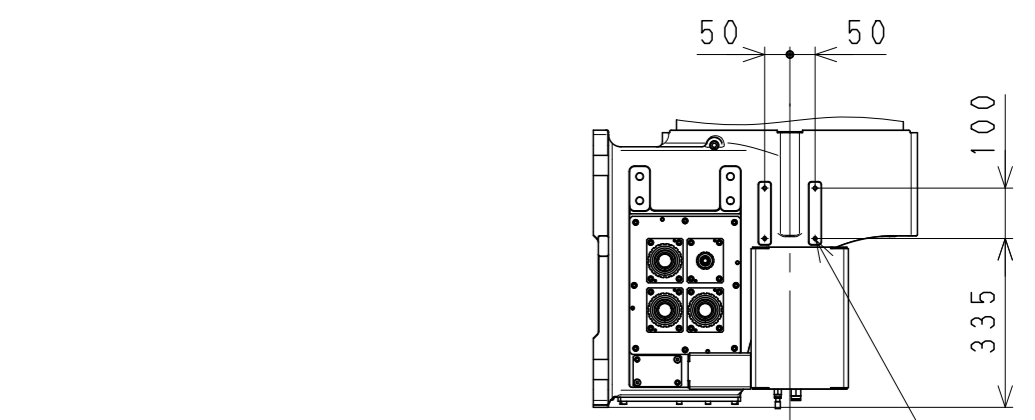
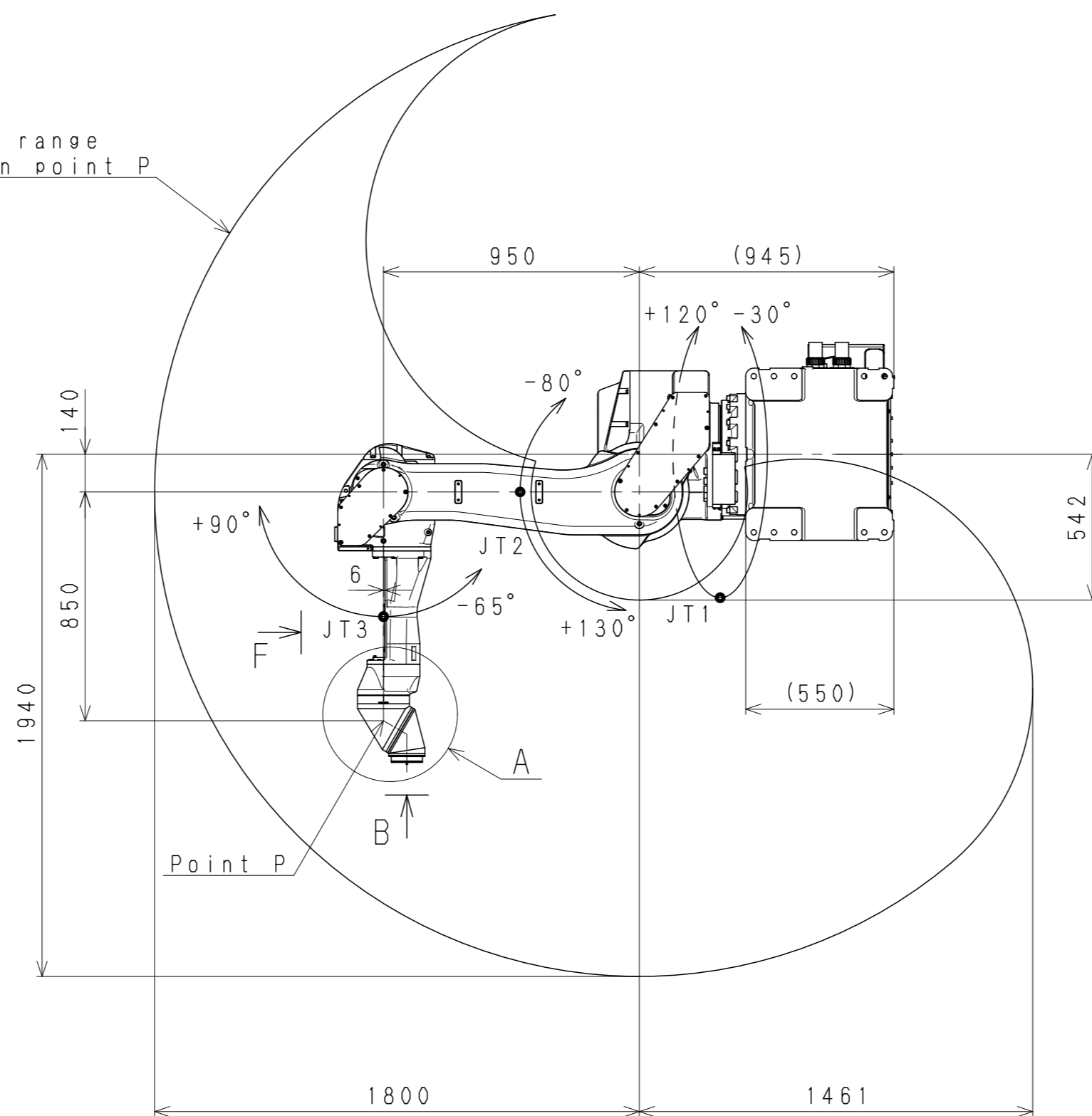
VIEW B



VIEW E

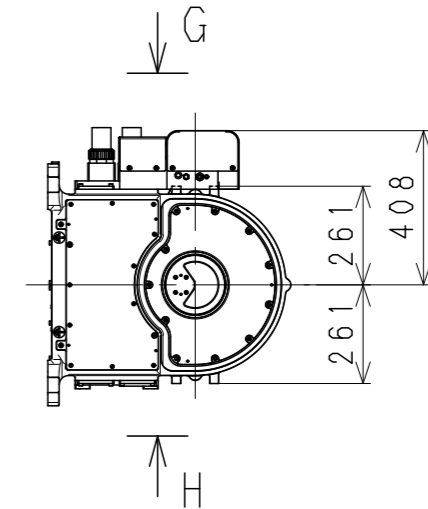


Working range based on point P



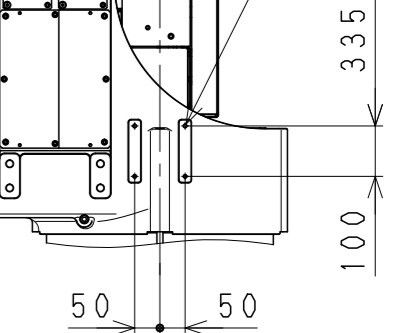
4-M8 22 DEEP

VIEW G

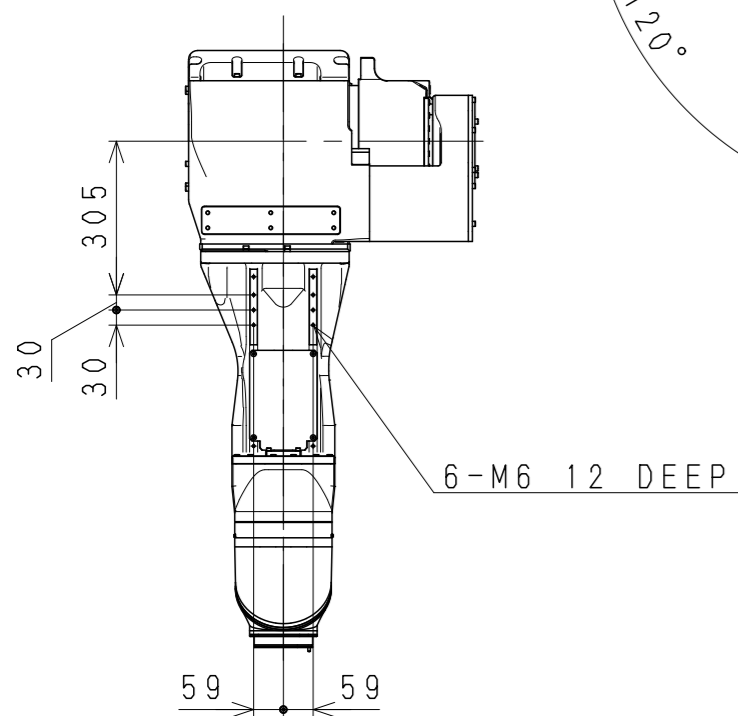


4-M8 22 DEEP

VIEW H

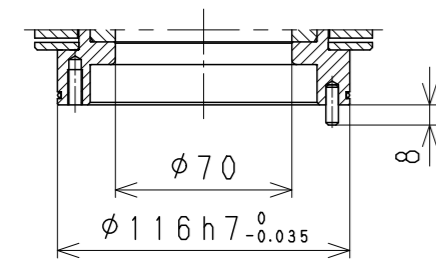


VIEW H

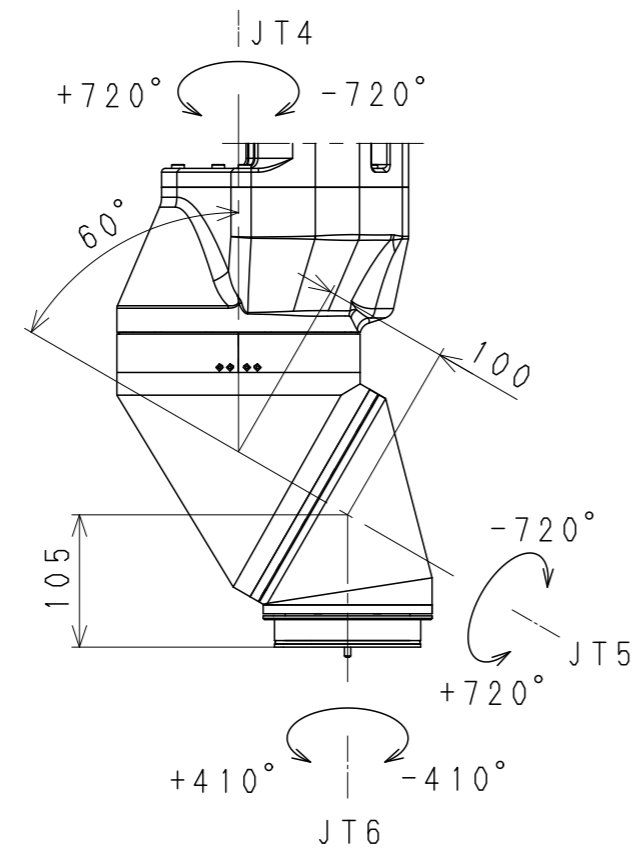


VIEW F

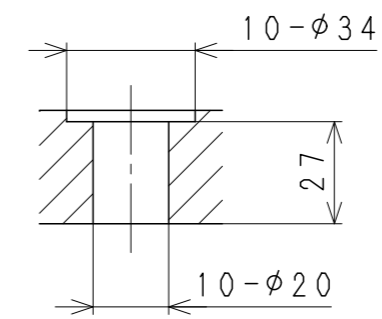
KJ194U-D0
(FLEXIBLE INSTALLATION)
WORKING RANGE



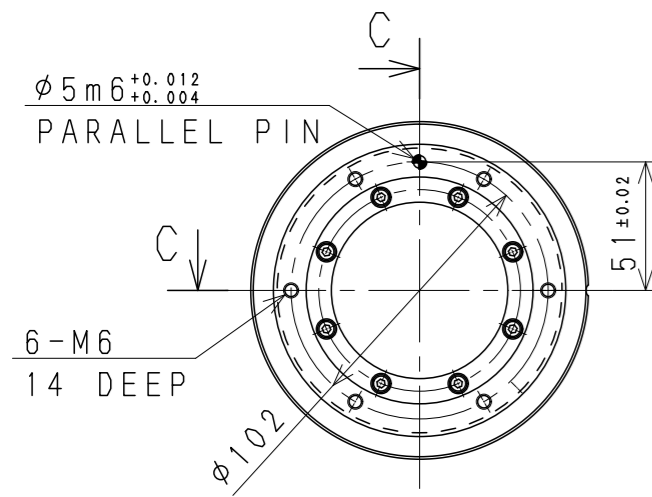
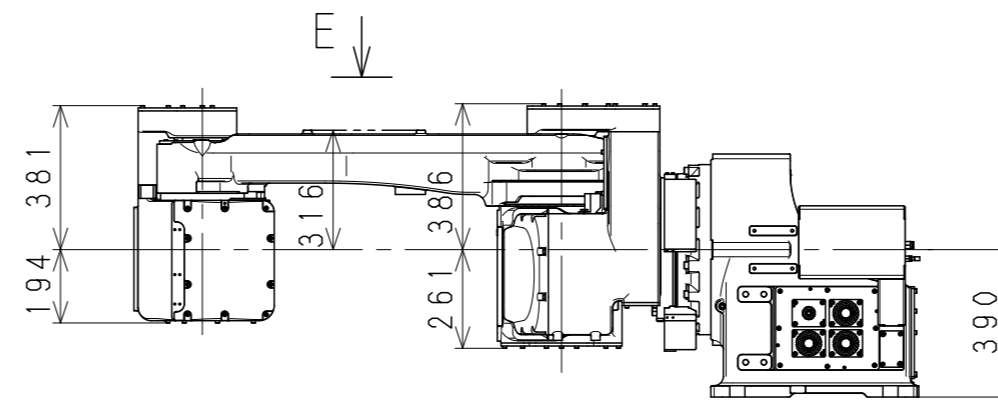
SECTION C-C



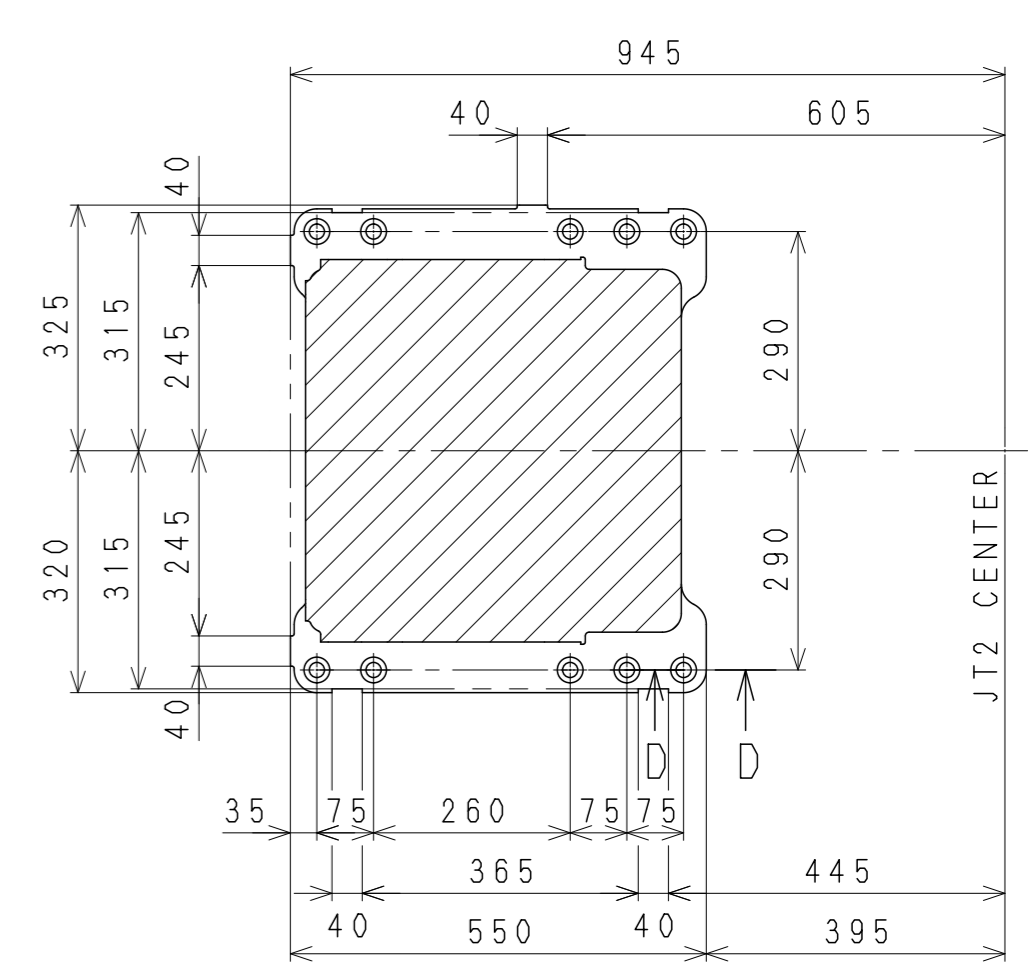
DETAIL A



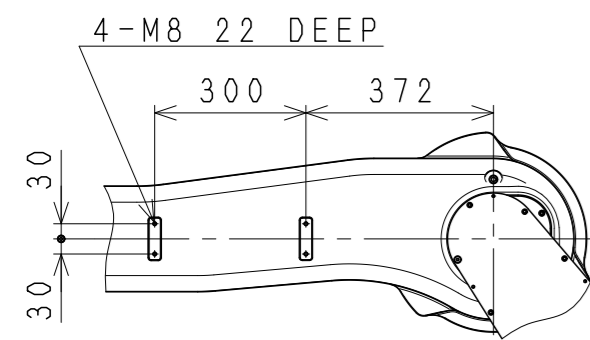
SECTION D-D



VIEW B

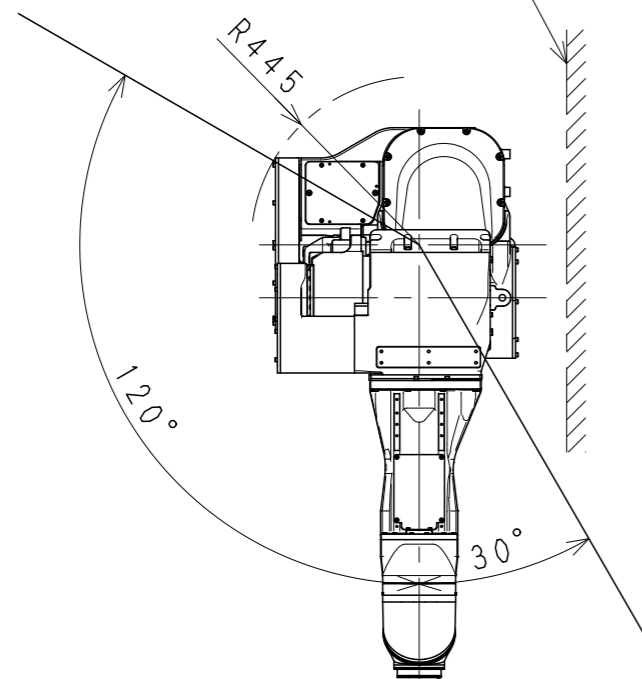


Base Installation Dimensions

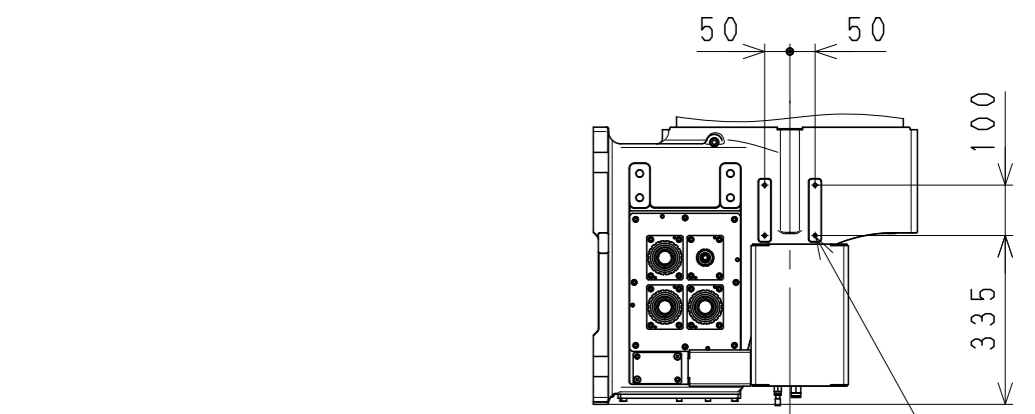
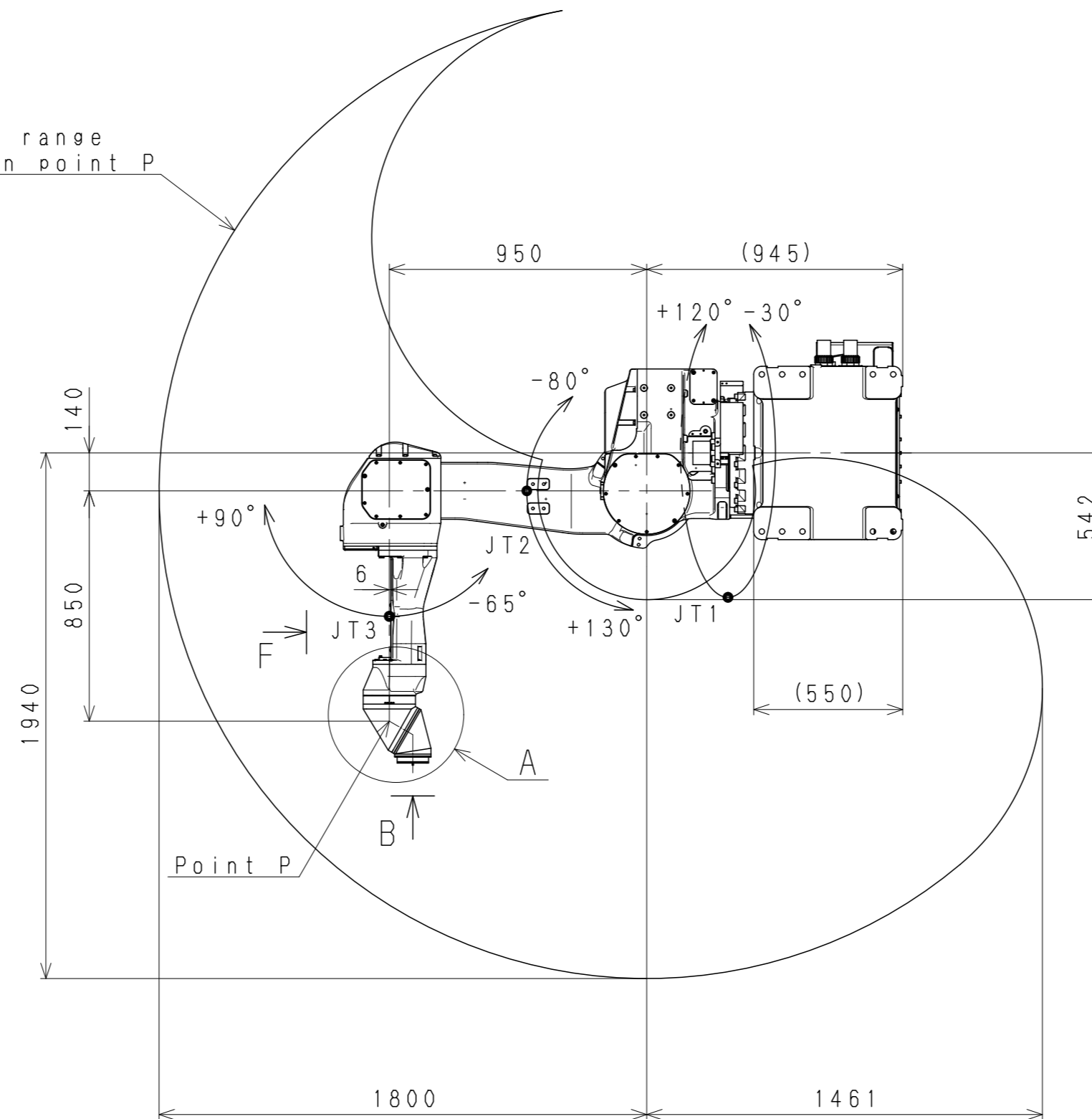


VIEW E

MOUNTING SURFACE

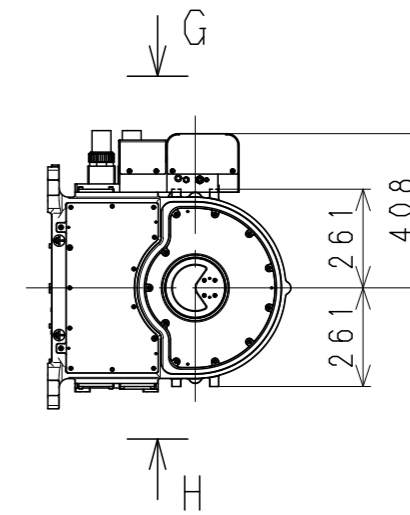


Working range based on point P

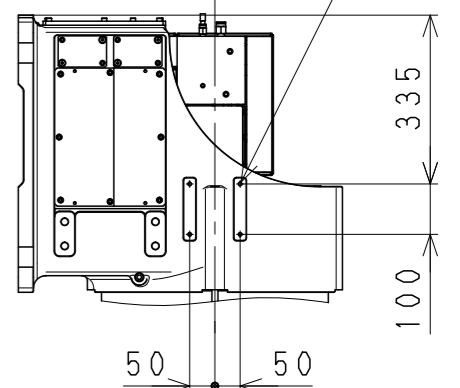


4-M8 22 DEEP

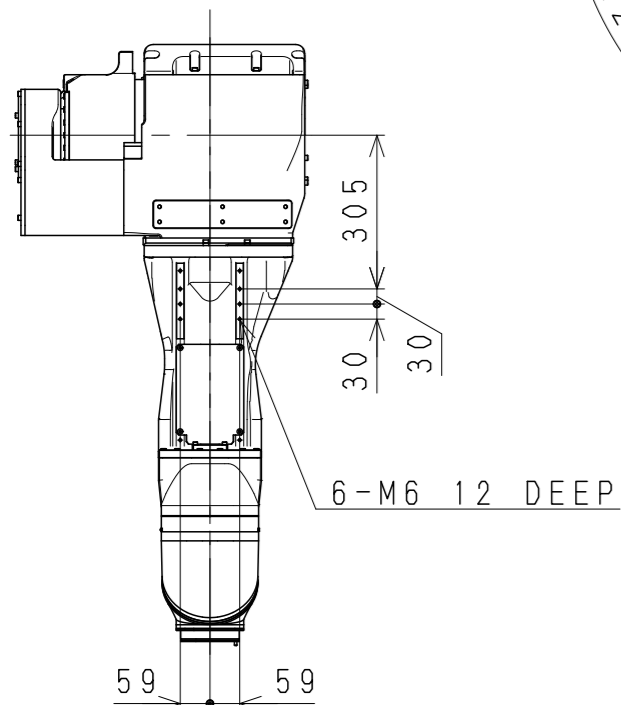
VIEW G



4-M8 22 DEEP

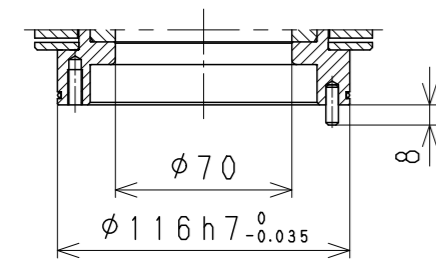


VIEW H

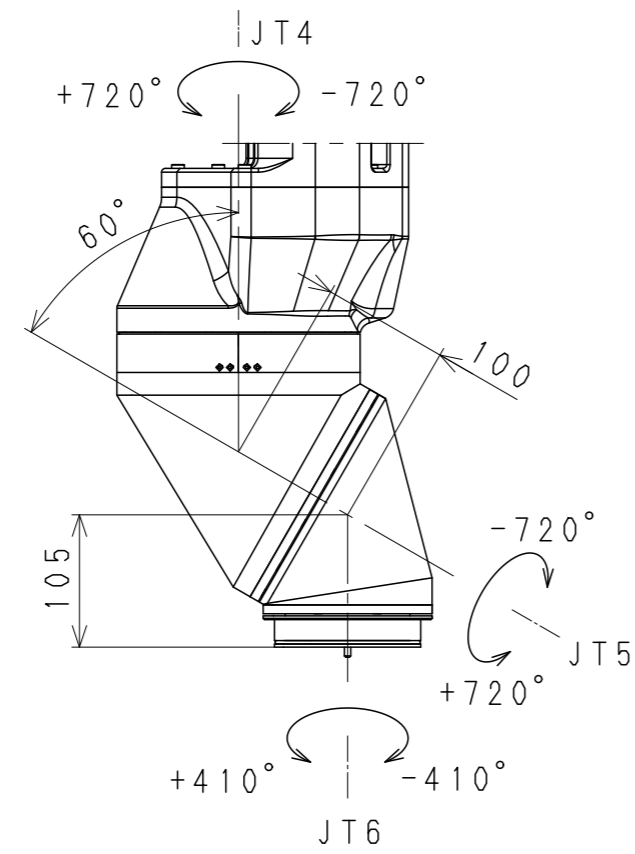


VIEW F

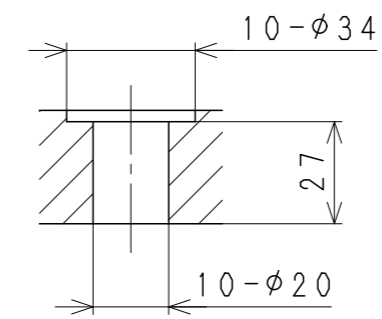
KJ194U-D1
(FLEXIBLE INSTALLATION)
WORKING RANGE



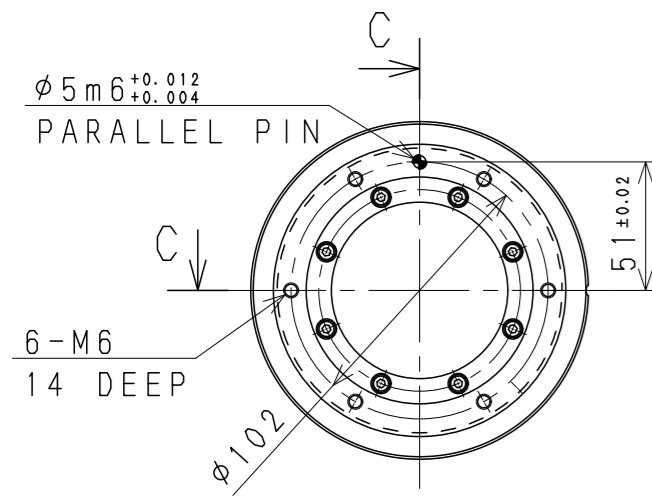
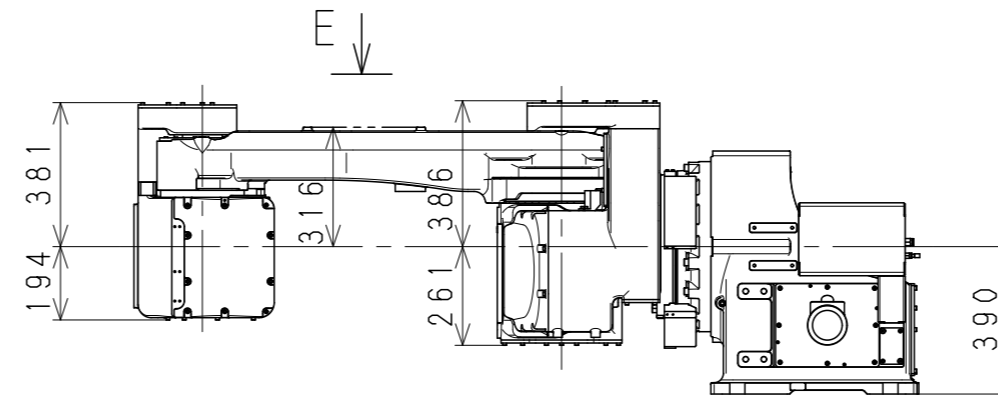
SECTION C-C



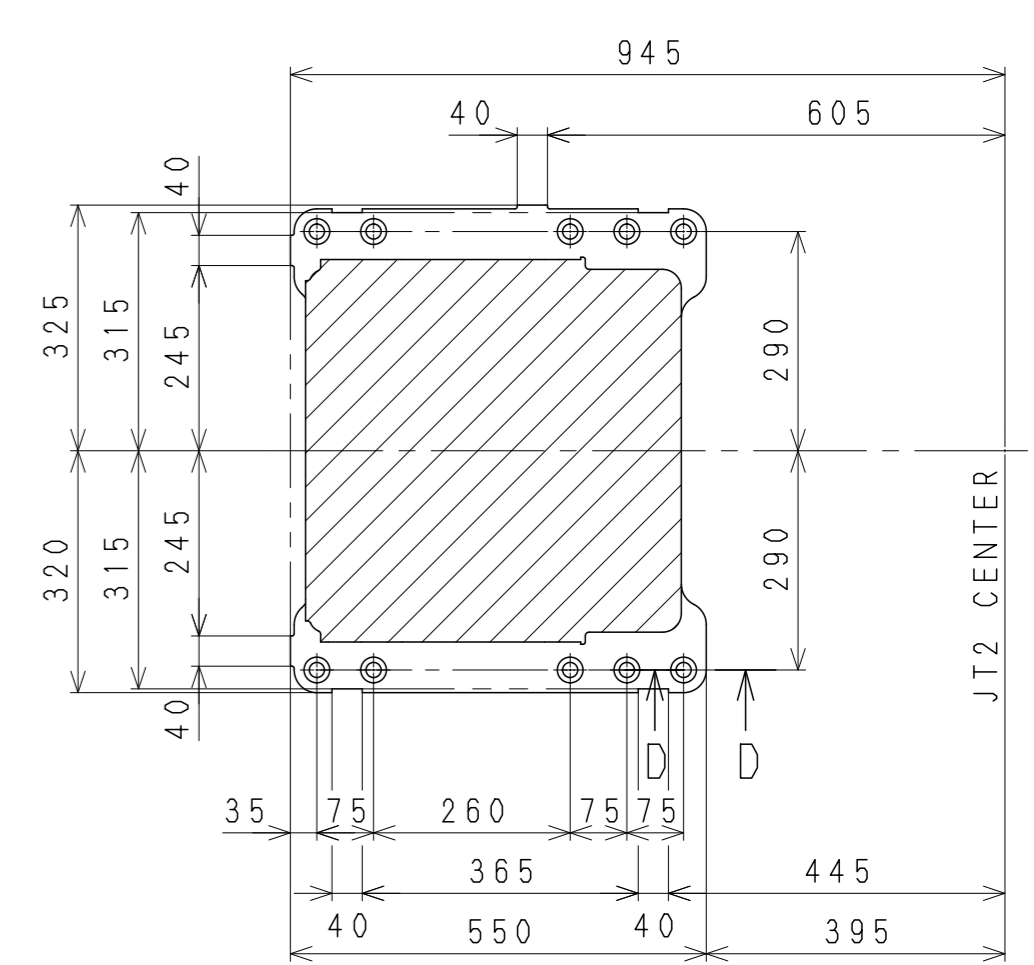
DETAIL A



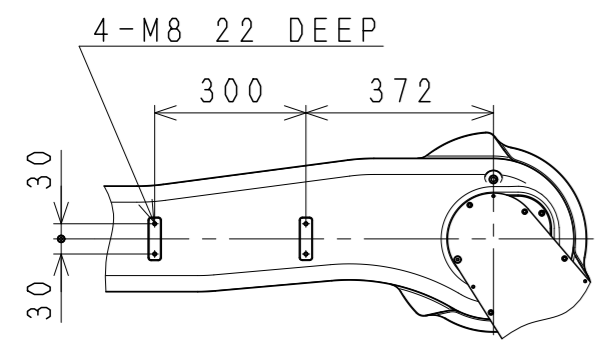
SECTION D-D



VIEW B



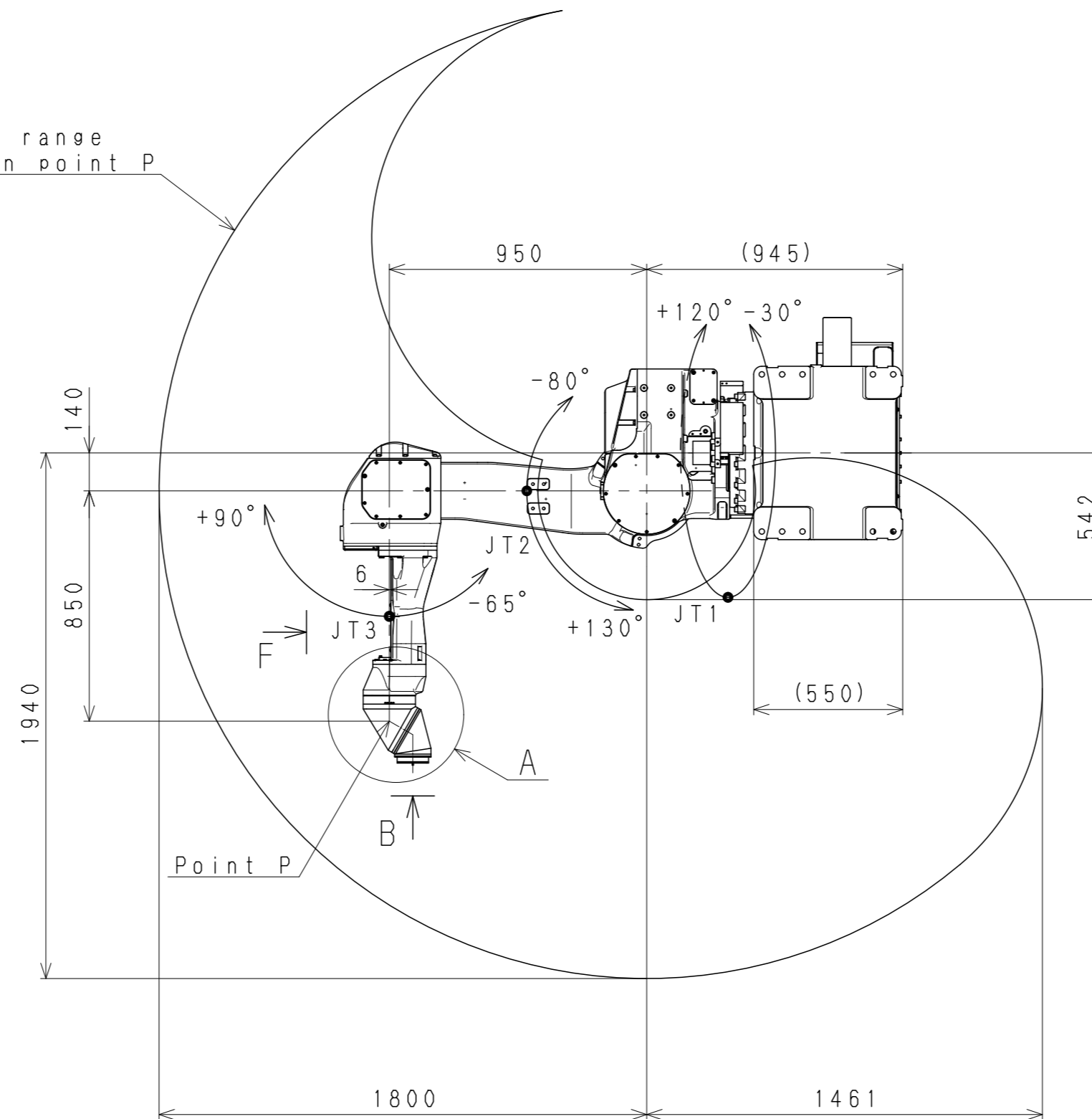
Base Installation Dimensions



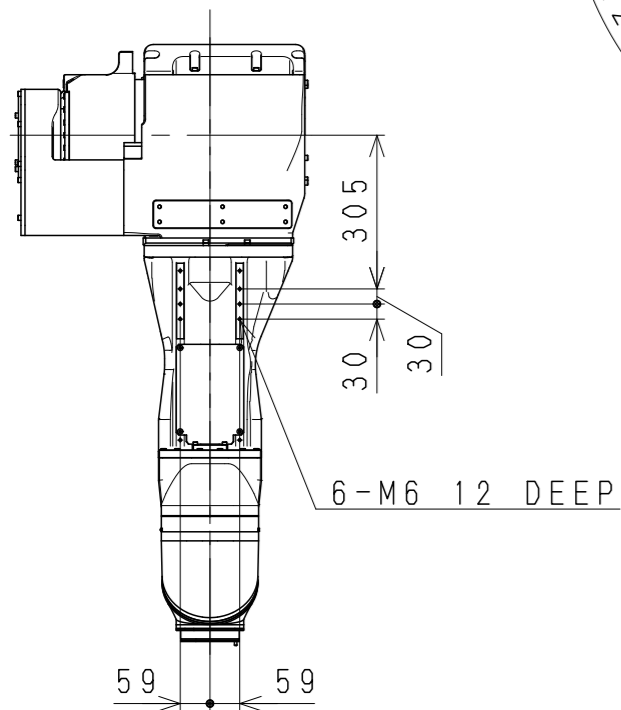
VIEW E

MOUNTING SURFACE

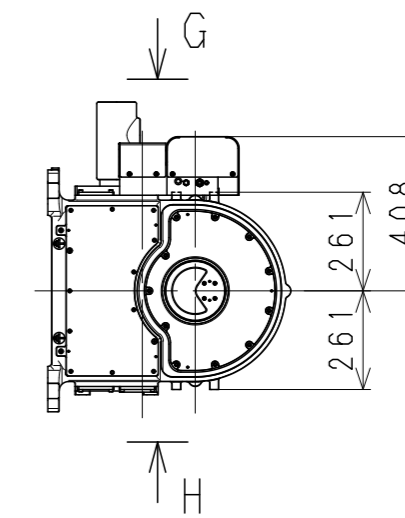
Working range based on point P



Point P

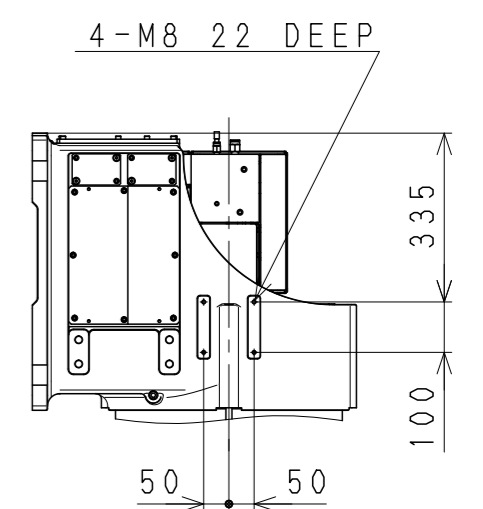


VIEW F



4-M8 22 DEEP

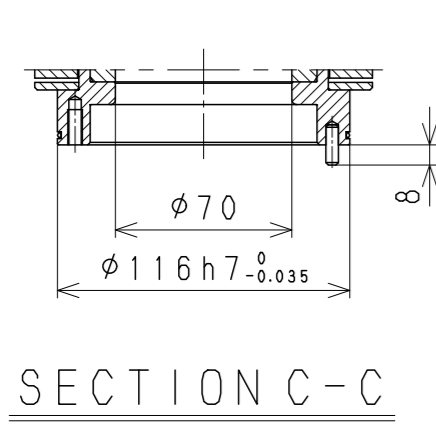
VIEW G



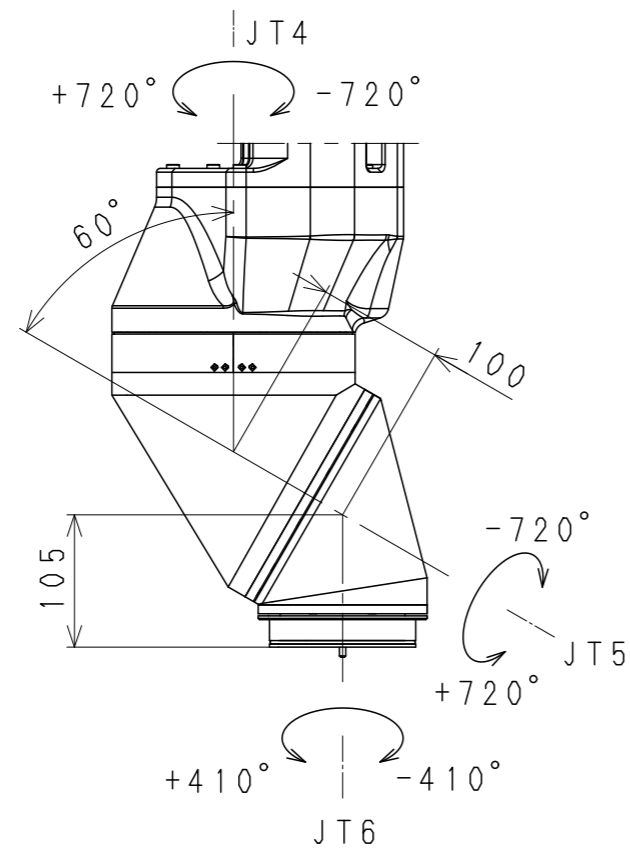
4-M8 22 DEEP

VIEW H

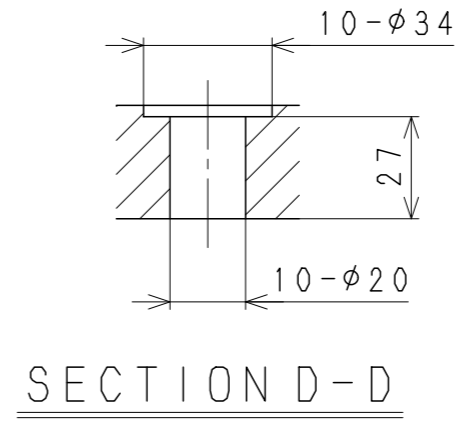
KJ194U-D5
(FIX INSTALLATION)
WORKING RANGE



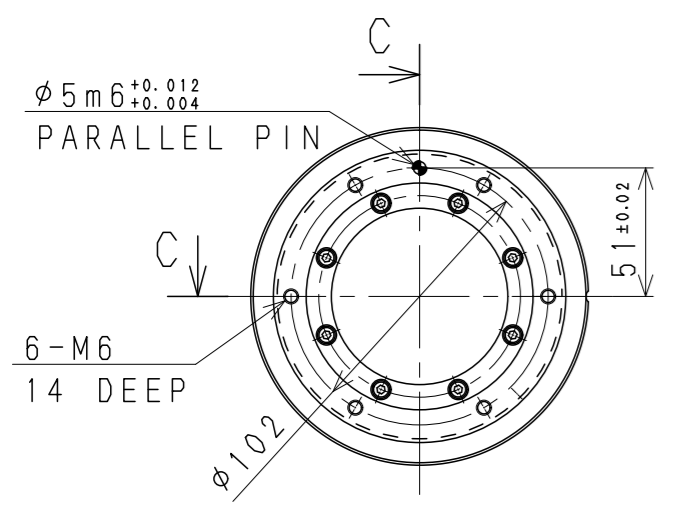
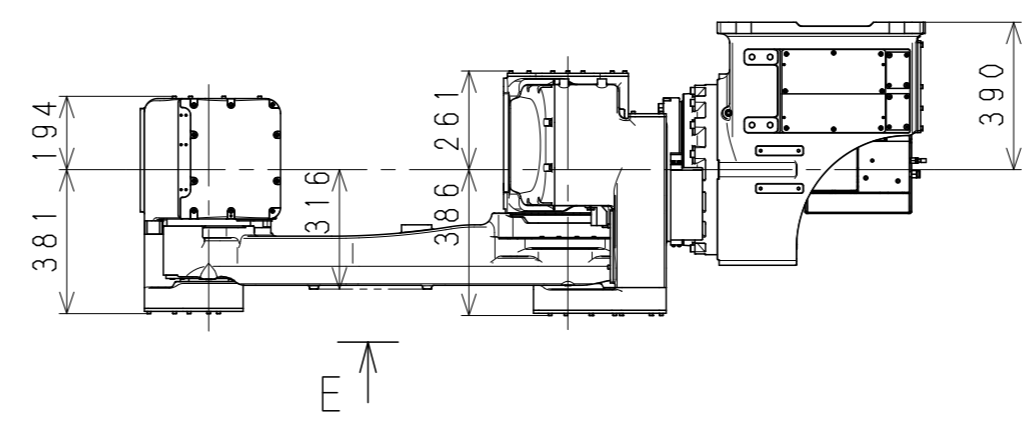
SECTION C-C



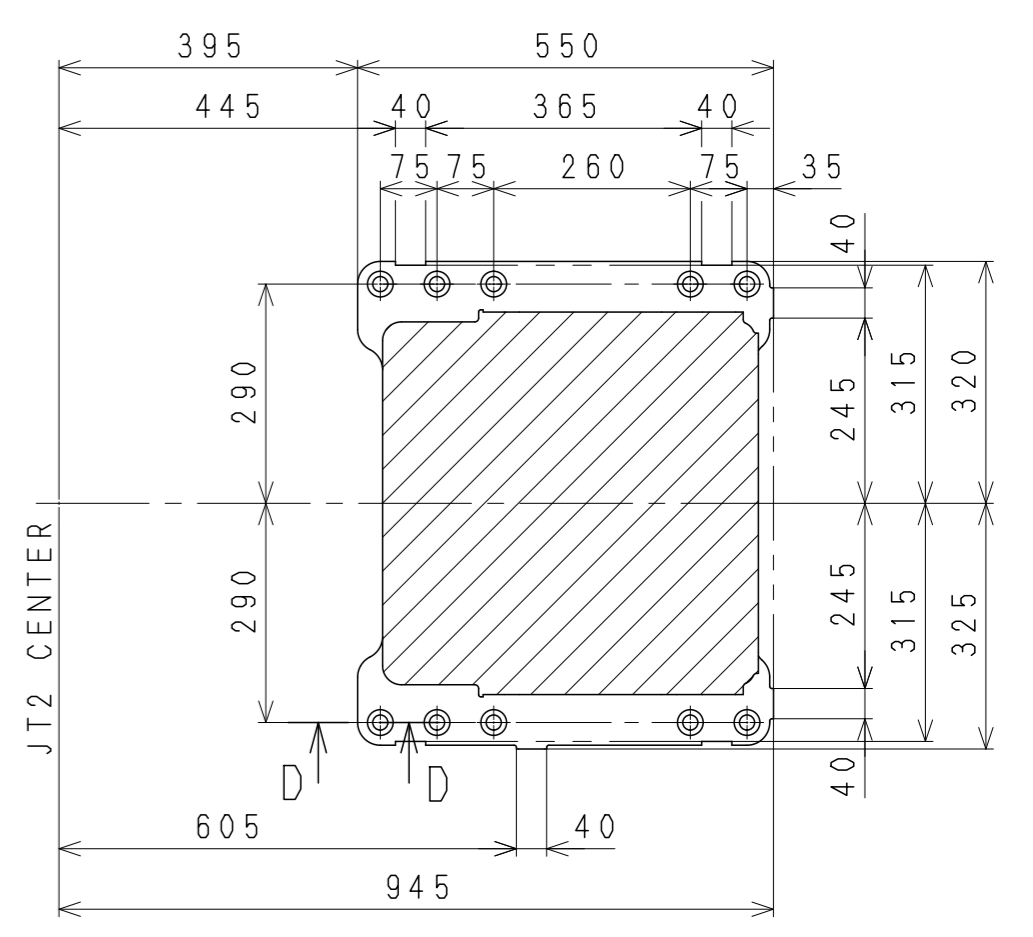
DETAIL A



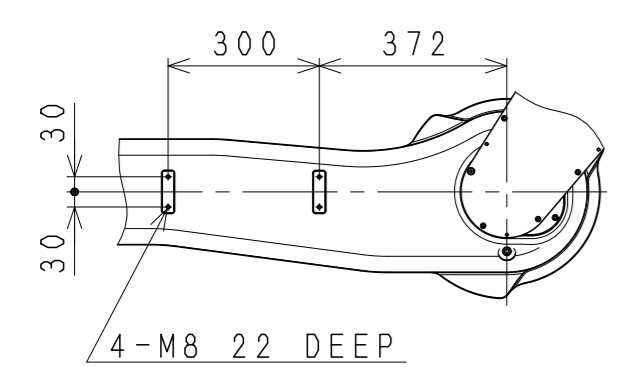
SECTION D-D



VIEW B

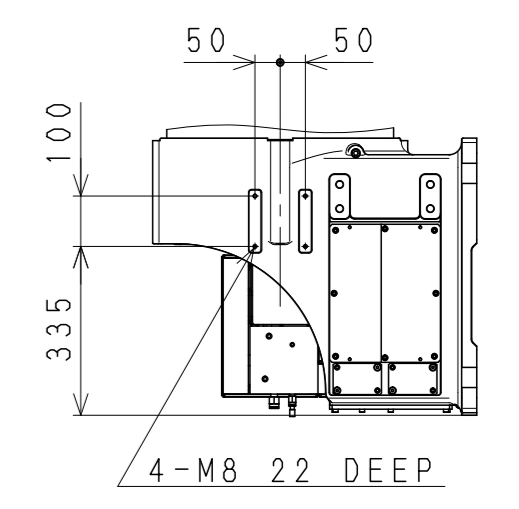
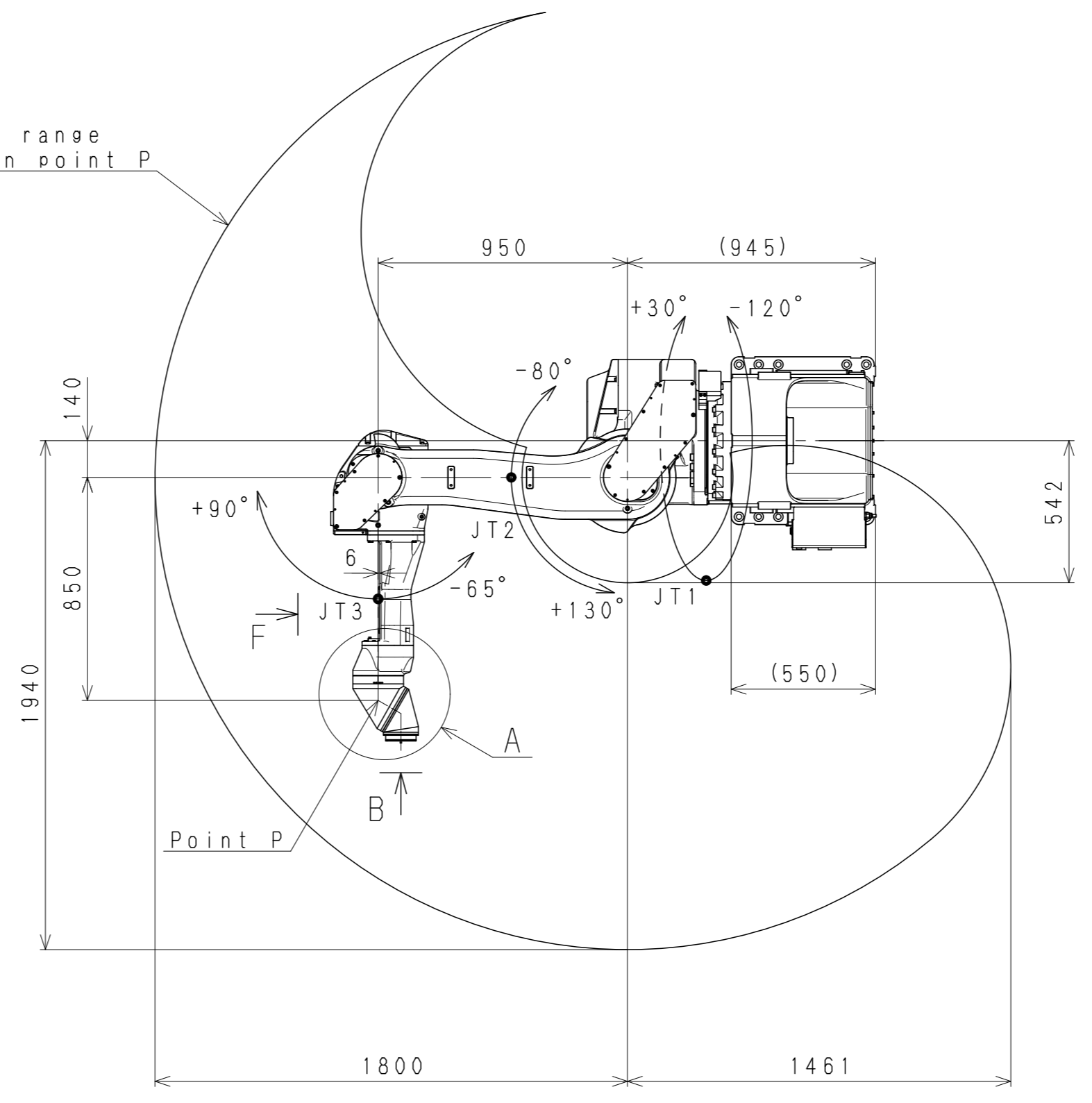


Base Installation Dimensions

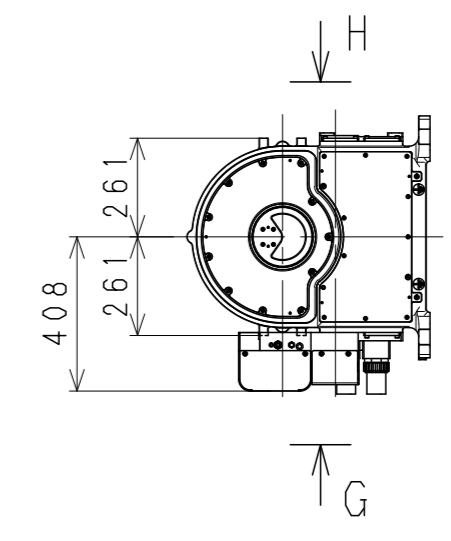


VIEW E

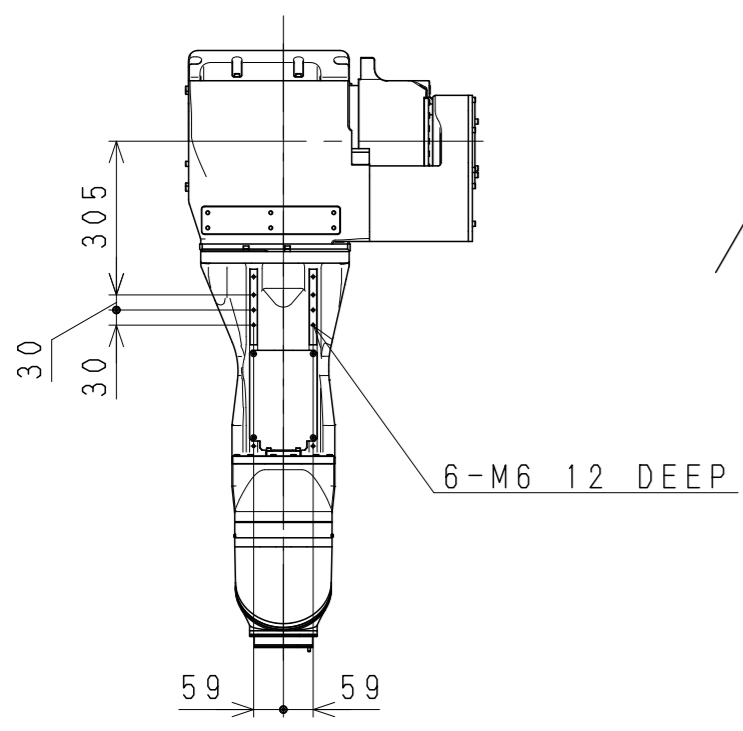
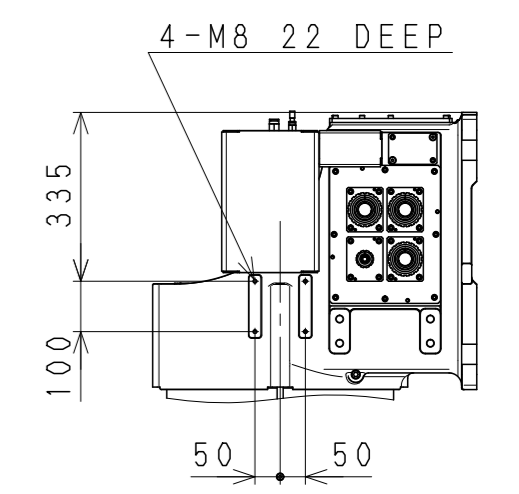
Working range based on point P



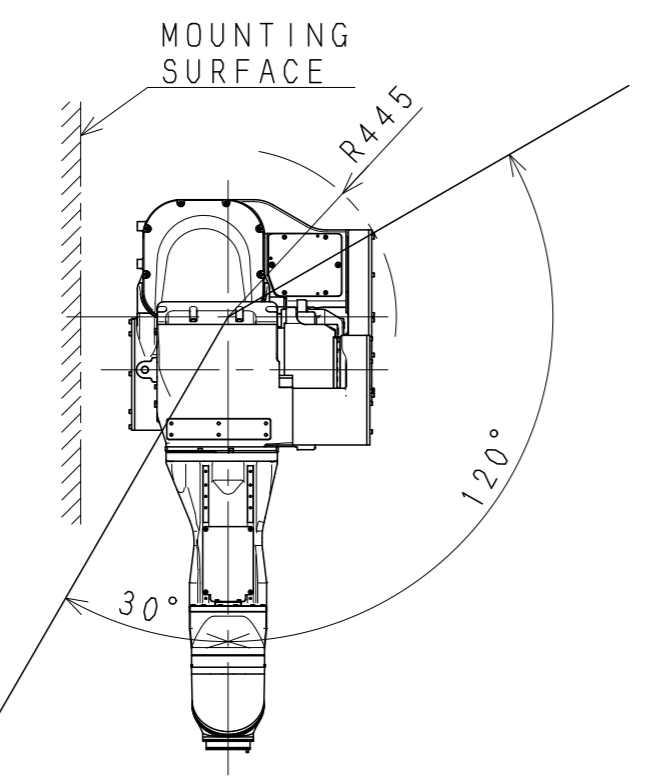
VIEW H



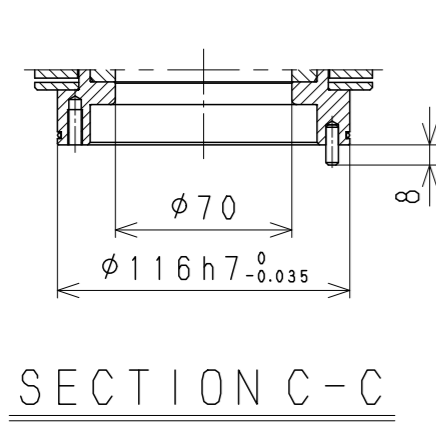
VIEW G



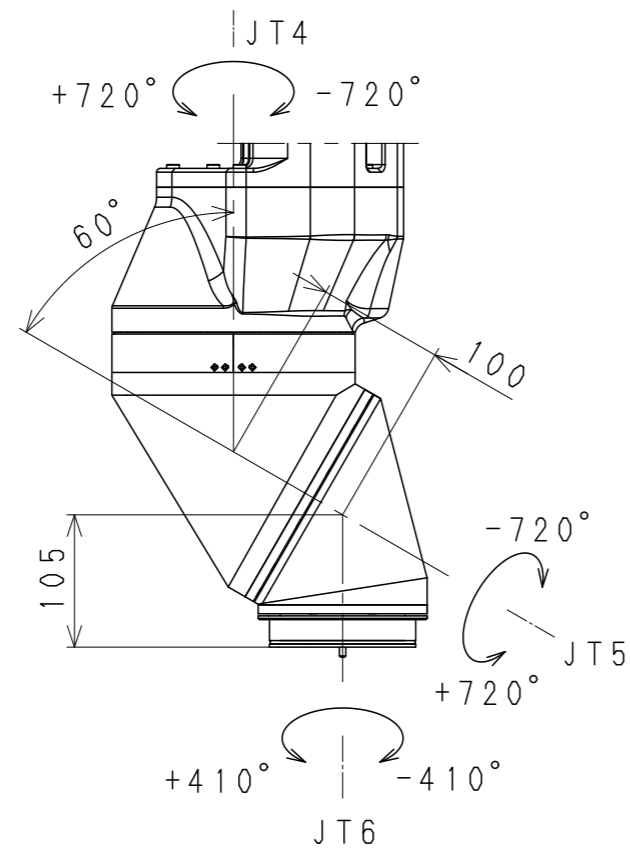
VIEW F



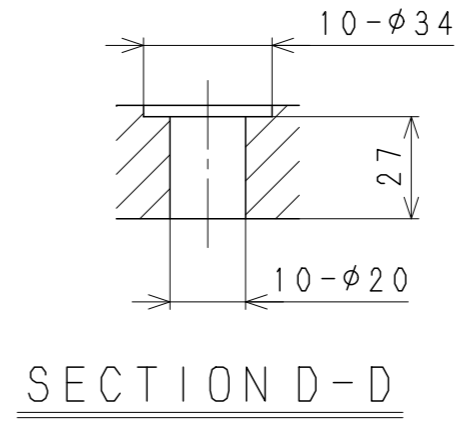
KJ194U-F0
(FLEXIBLE INSTALLATION)
WORKING RANGE



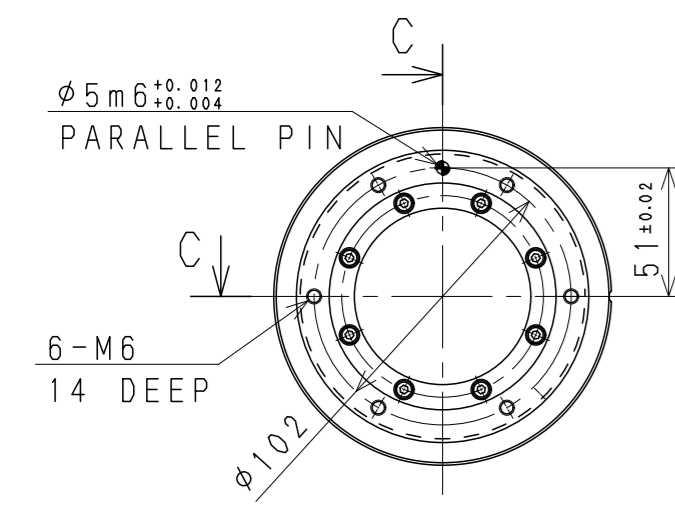
SECTION C-C



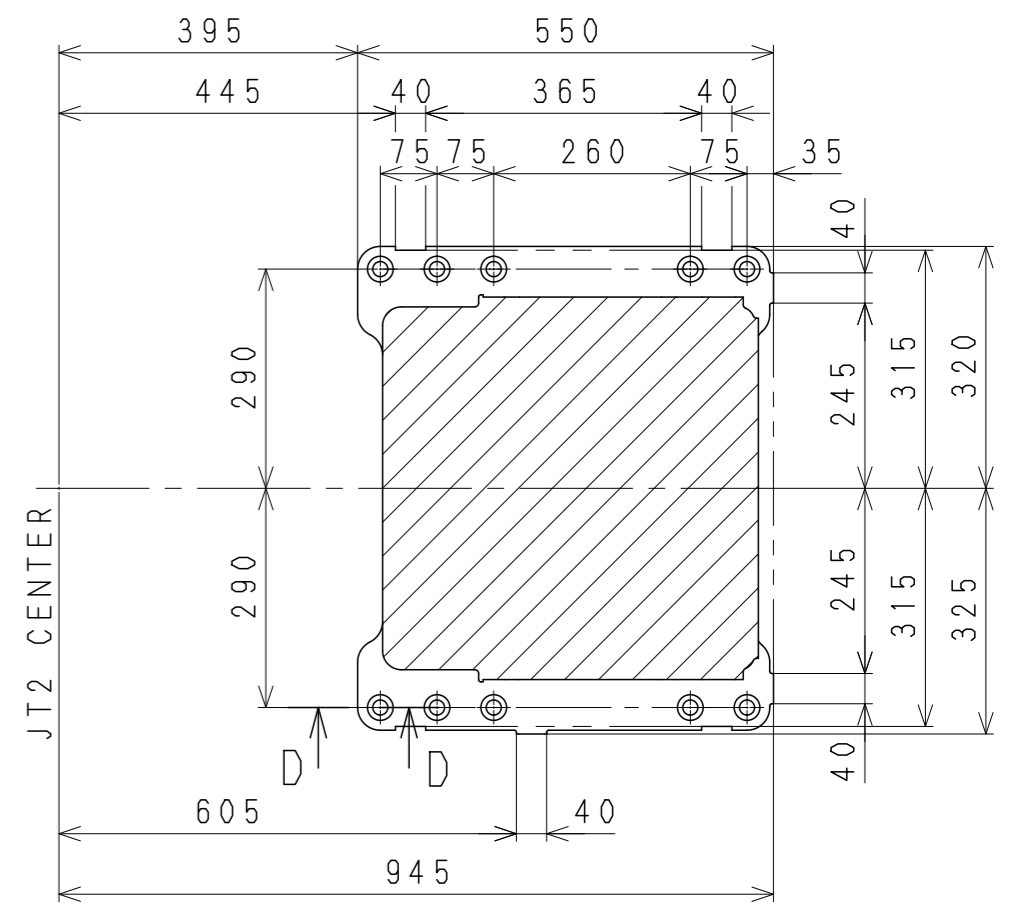
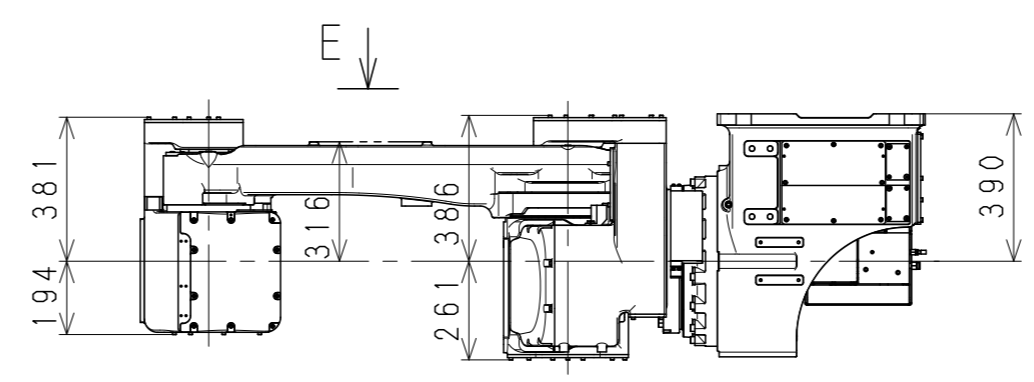
DETAIL A



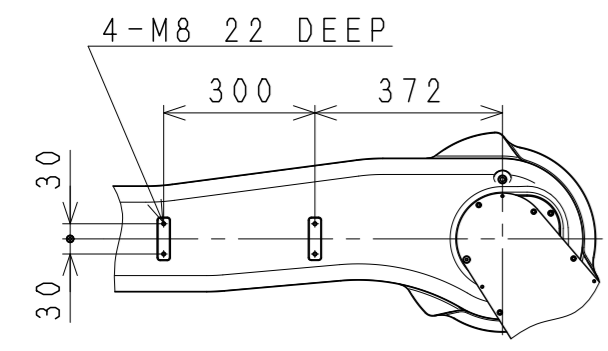
SECTION D-D



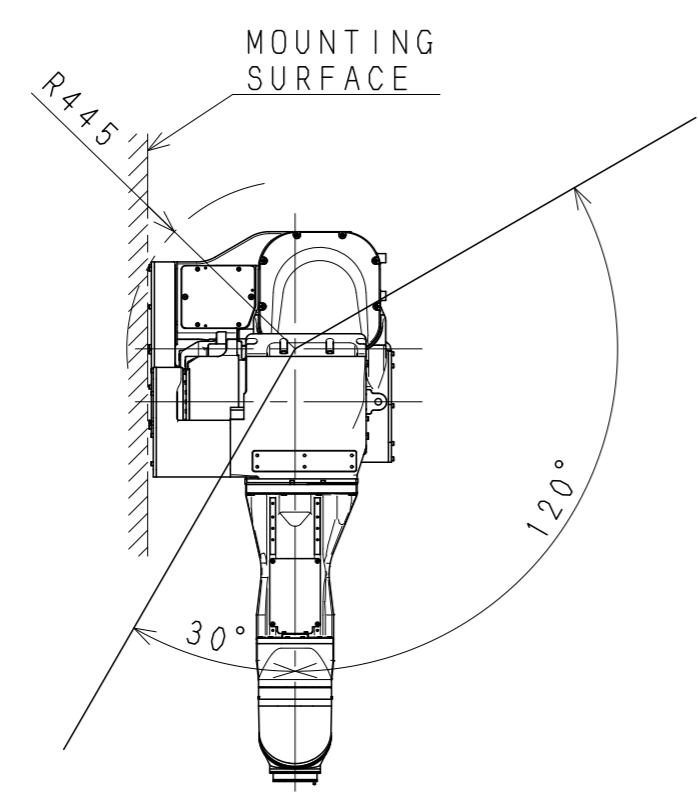
VIEW B



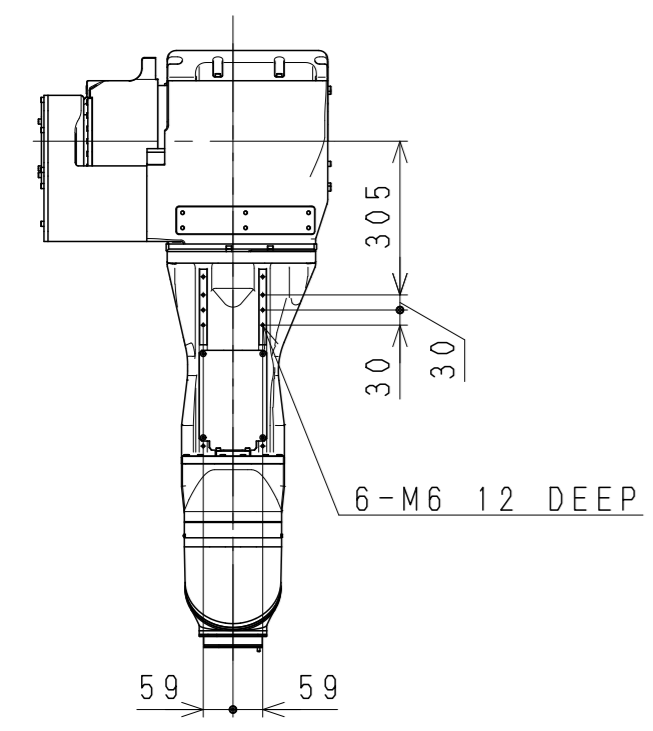
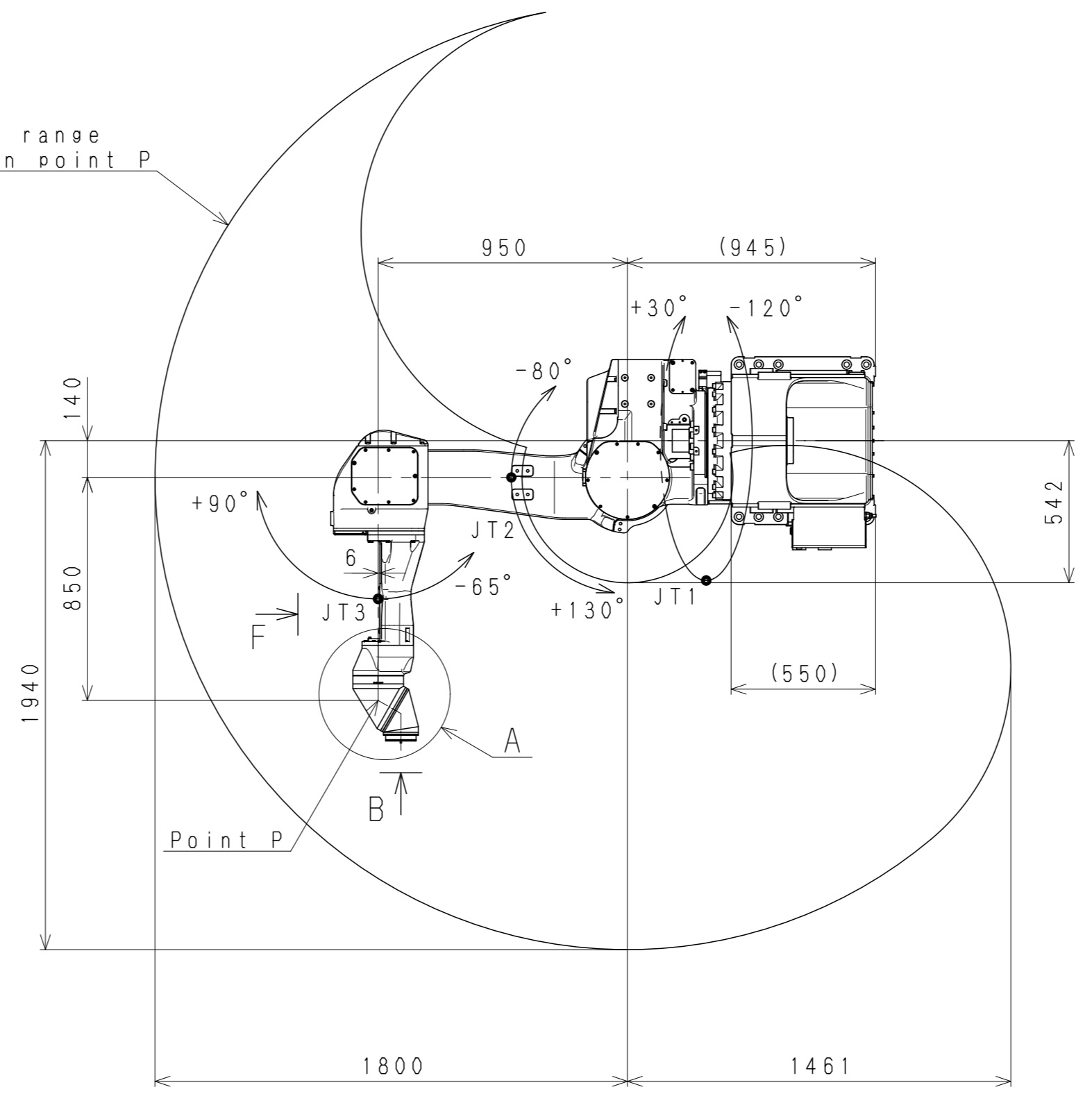
Base Installation Dimensions



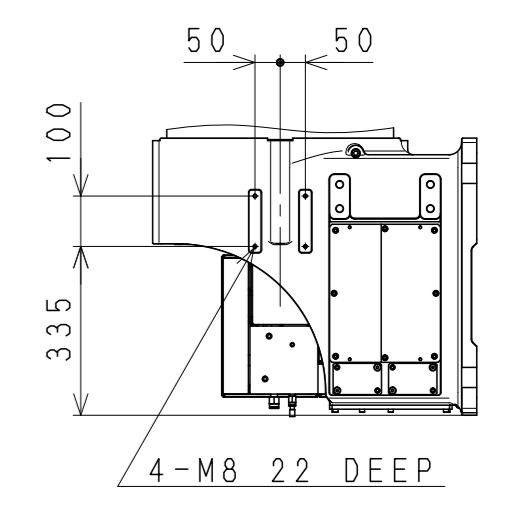
VIEW E



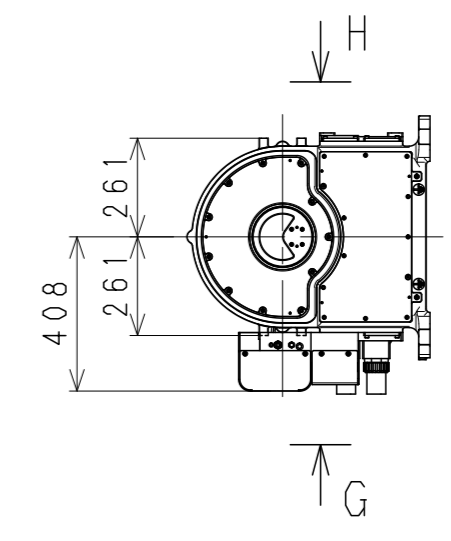
Working range based on point P



VIEW F

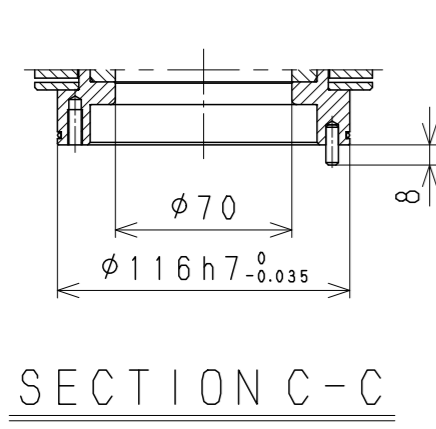


VIEW H

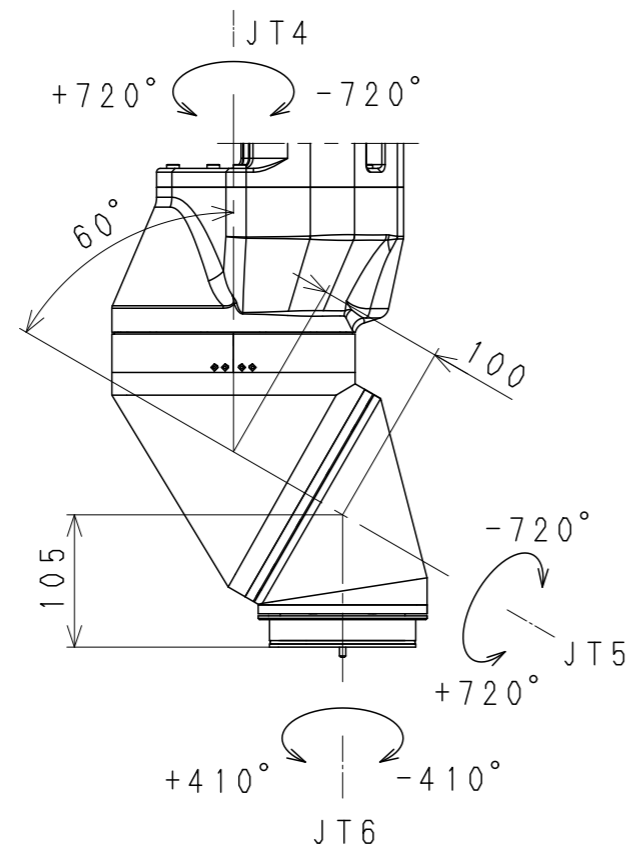


VIEW G

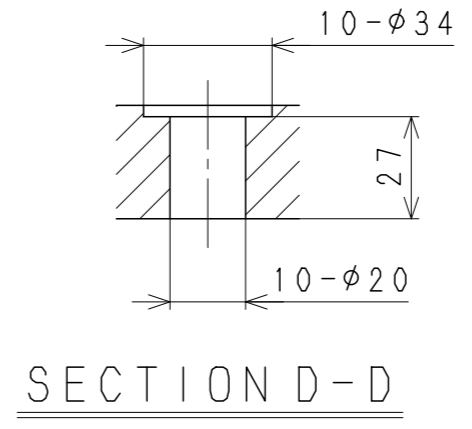
KJ194U-F1
(FLEXIBLE INSTALLATION)
WORKING RANGE



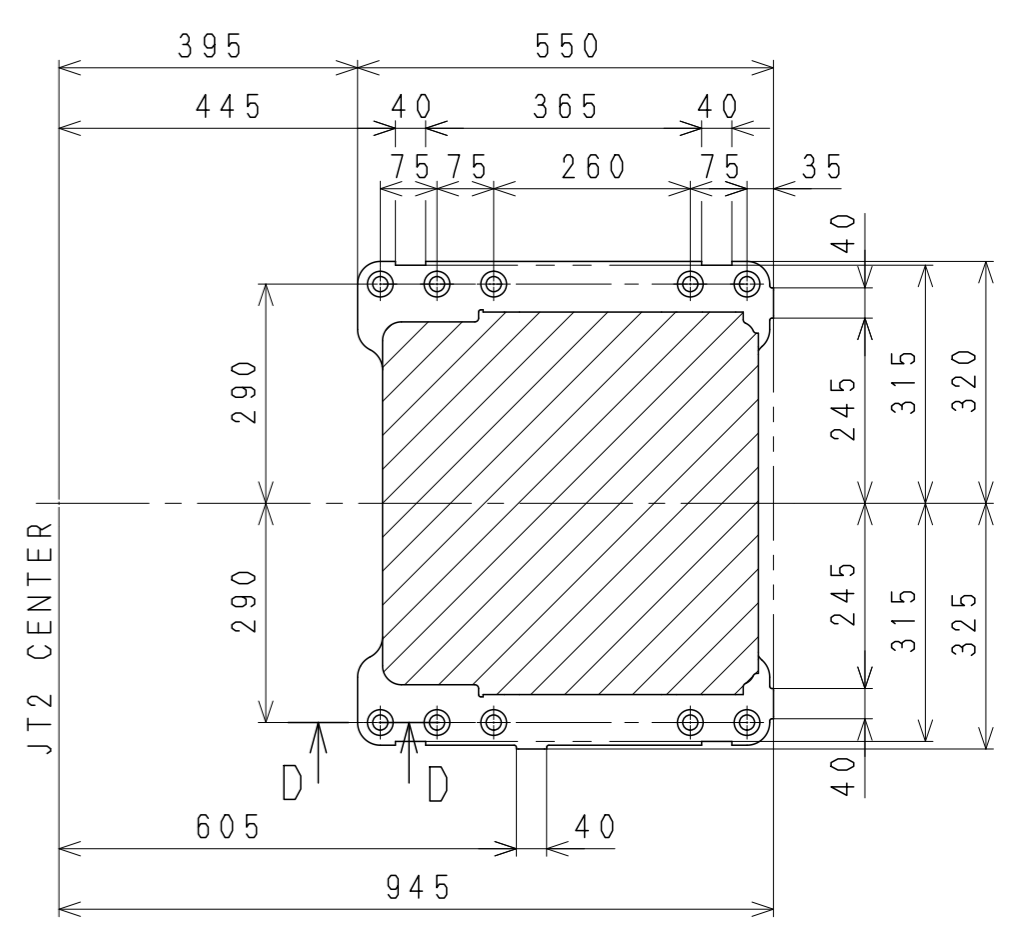
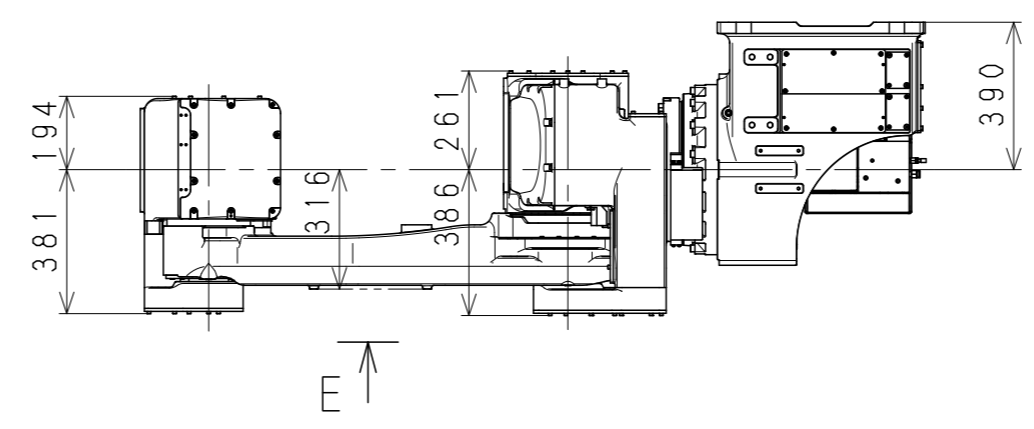
SECTION C-C



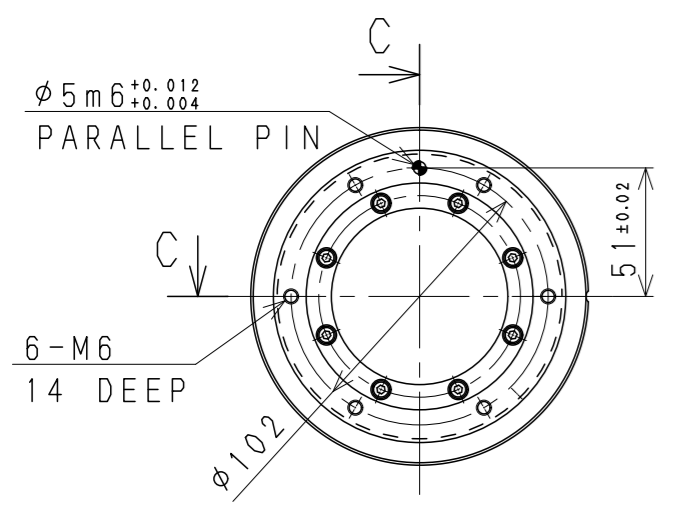
DETAIL A



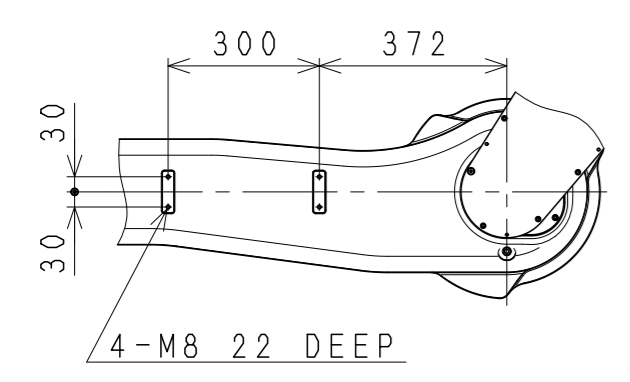
SECTION D-D



Base Installation Dimensions

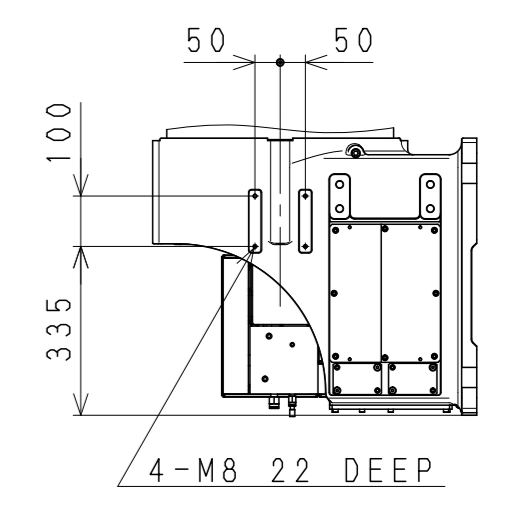
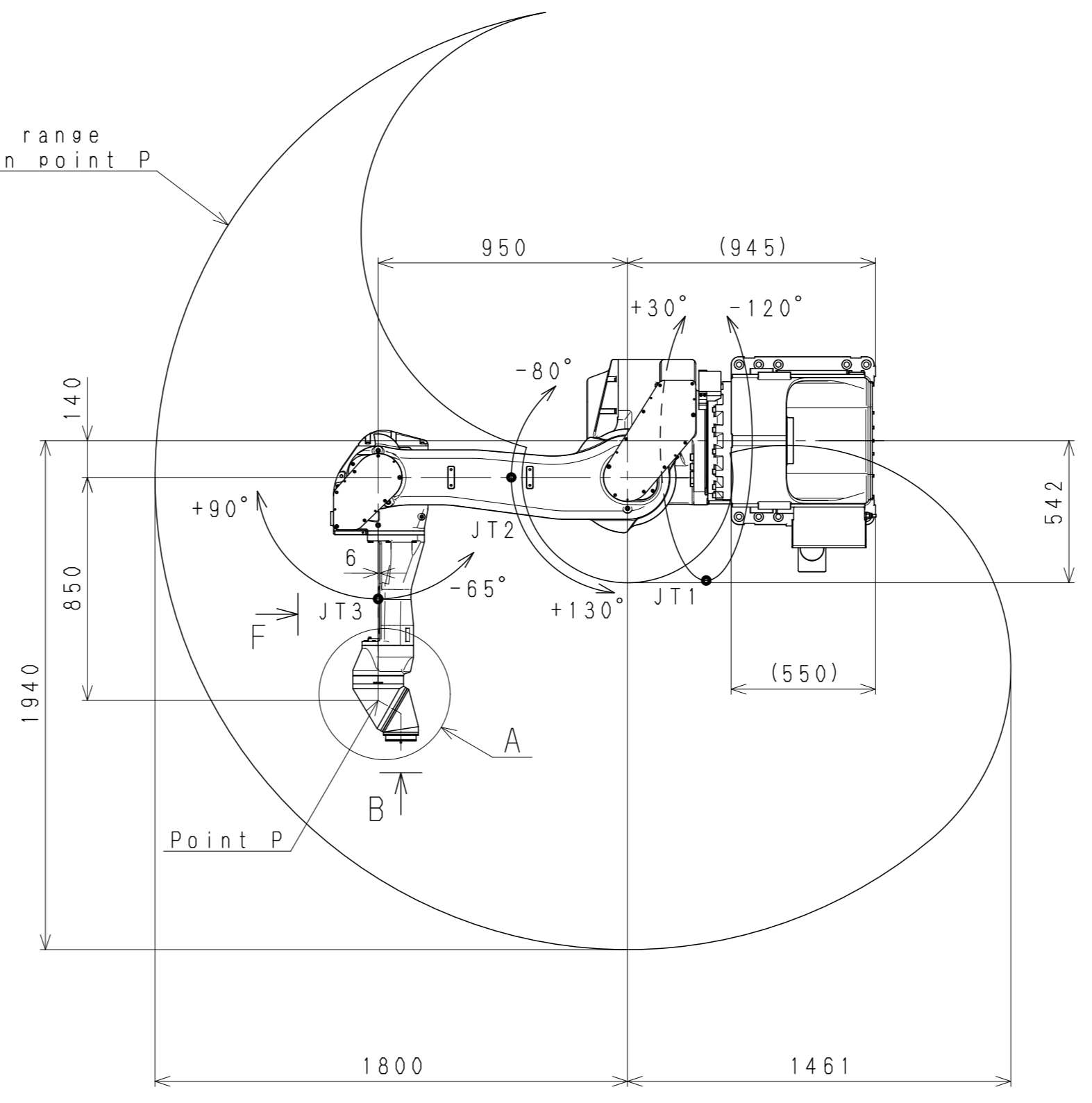


VIEW B

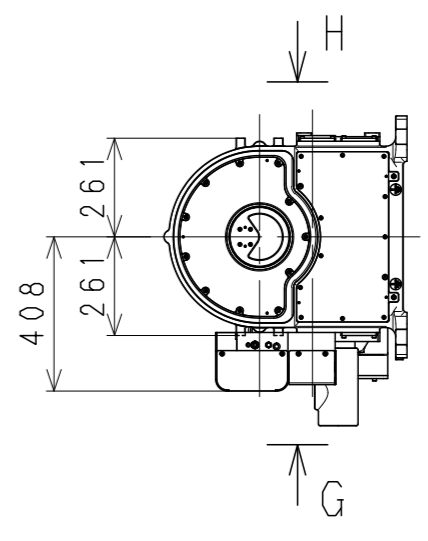


VIEW E

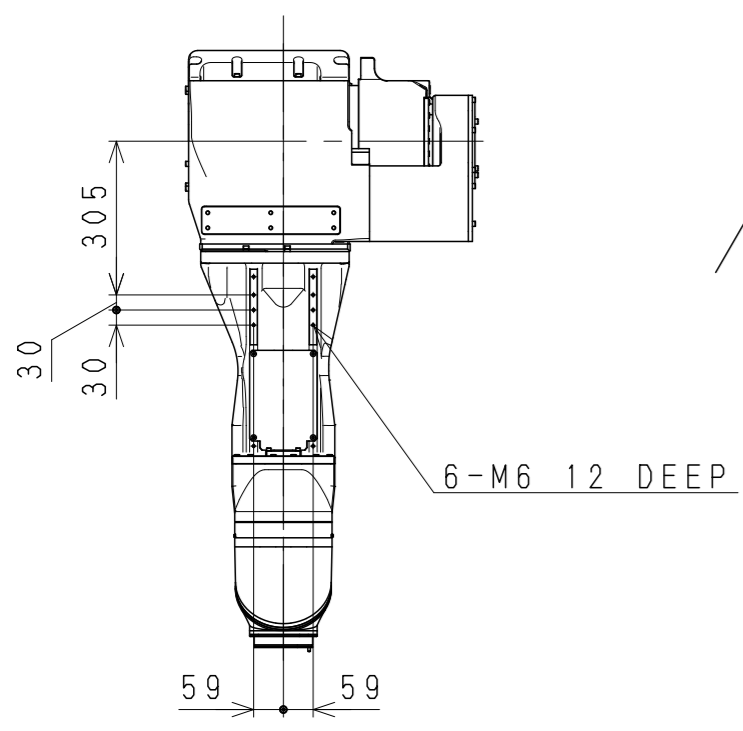
Working range based on point P



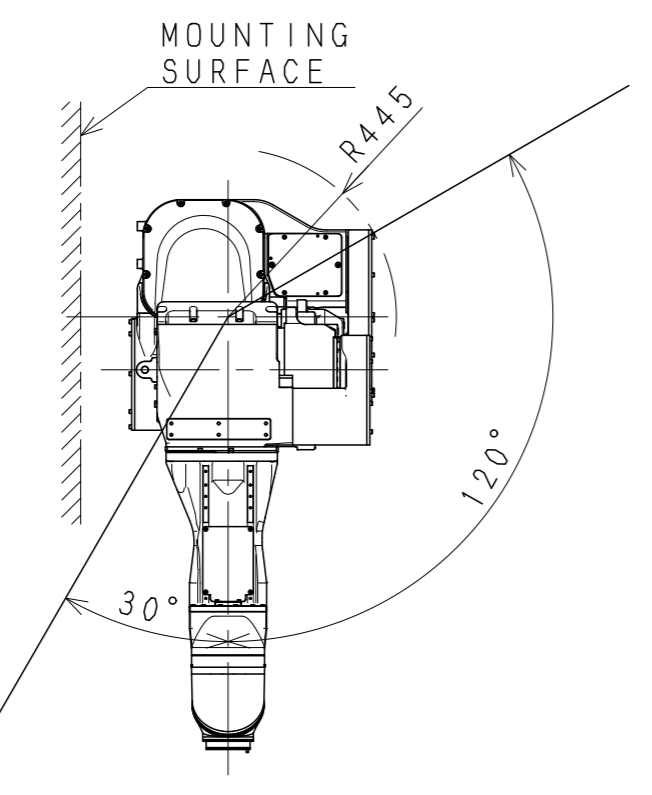
VIEW H



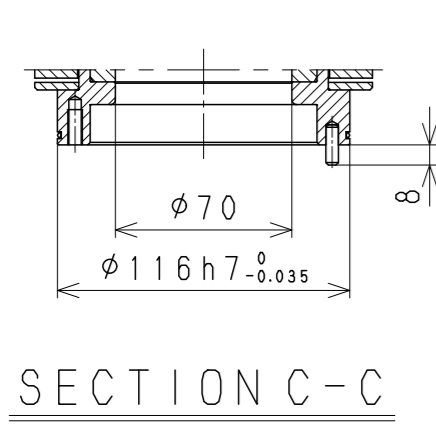
VIEW G



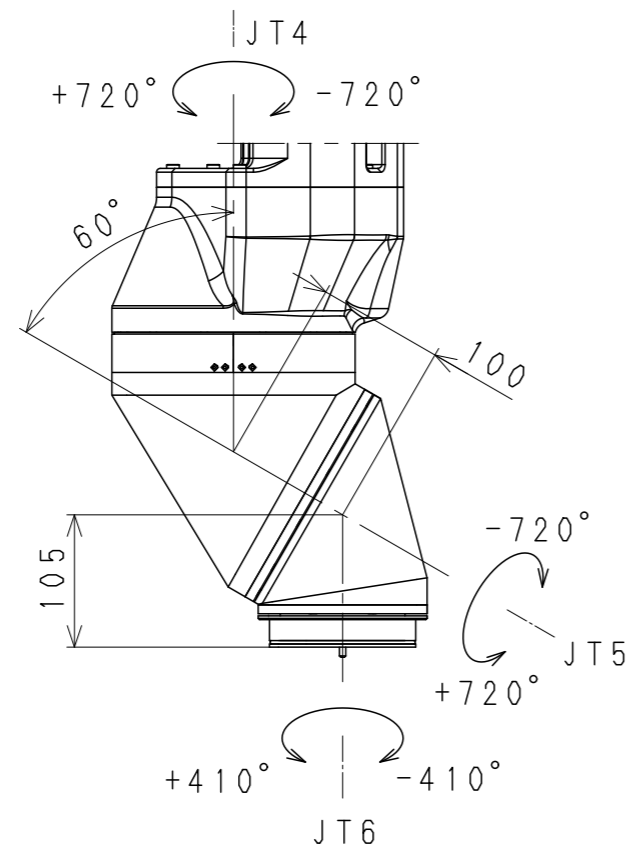
VIEW F



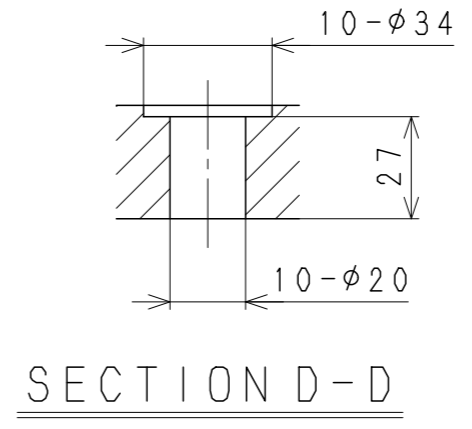
KJ194U-F4
(FIX INSTALLATION)
WORKING RANGE



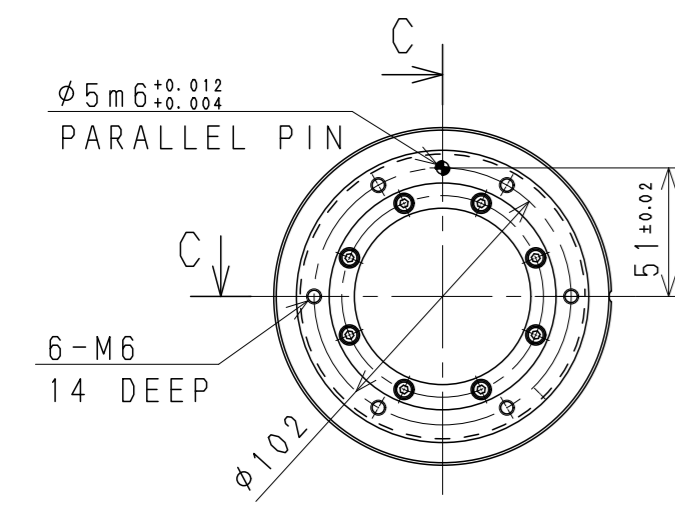
SECTION C-C



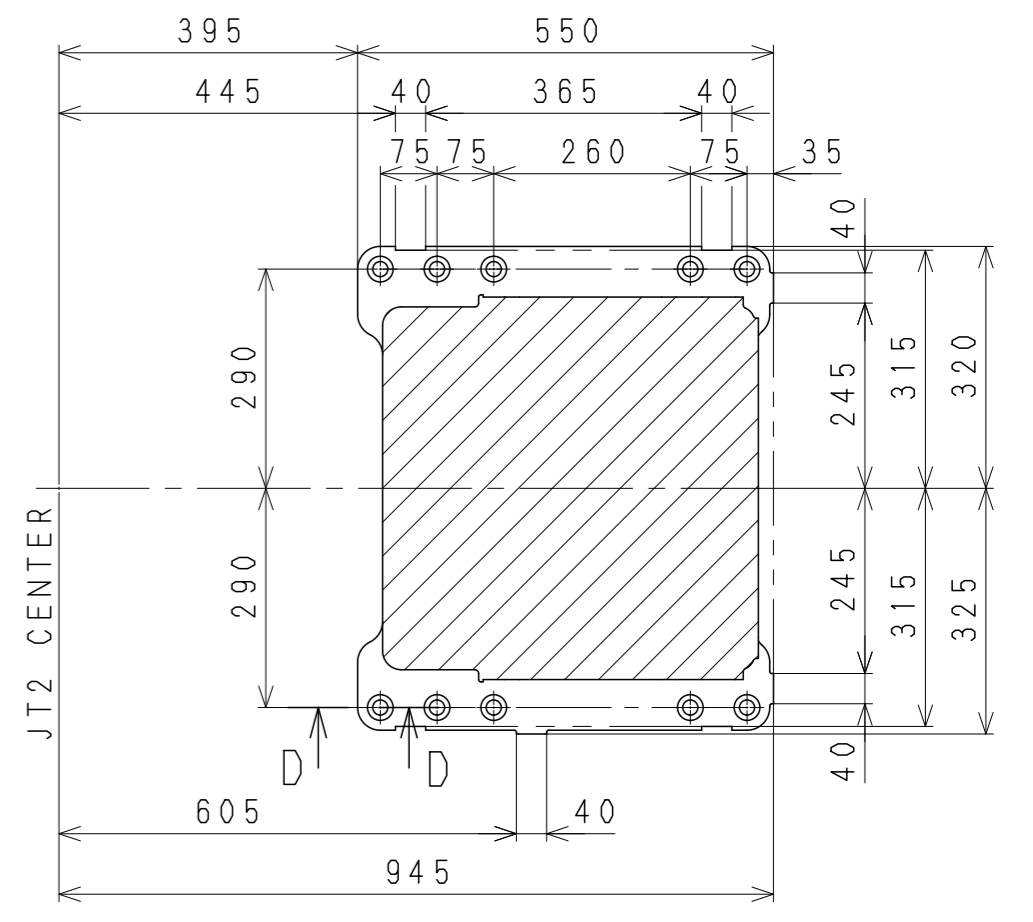
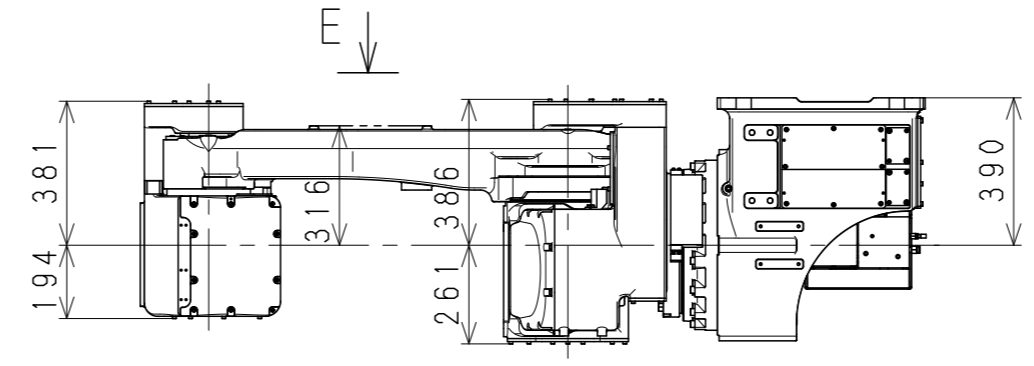
DETAIL A



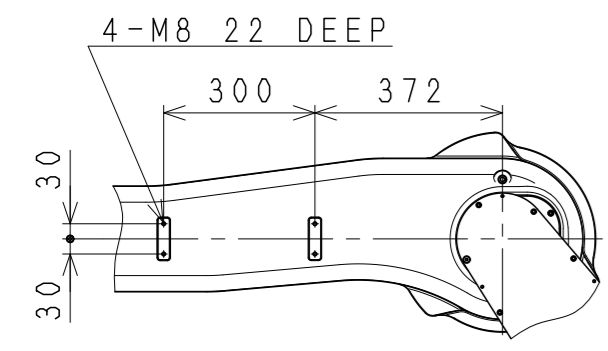
SECTION D-D



VIEW B

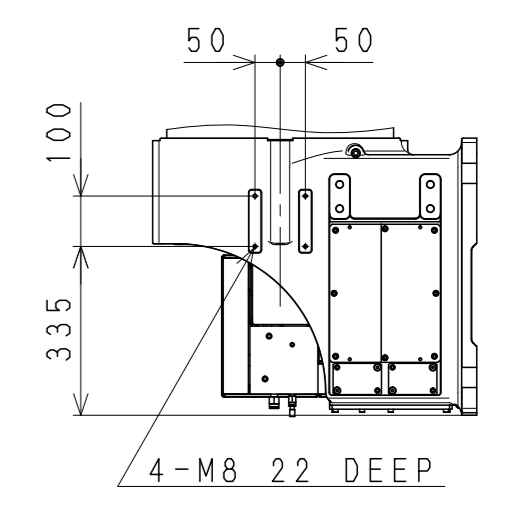
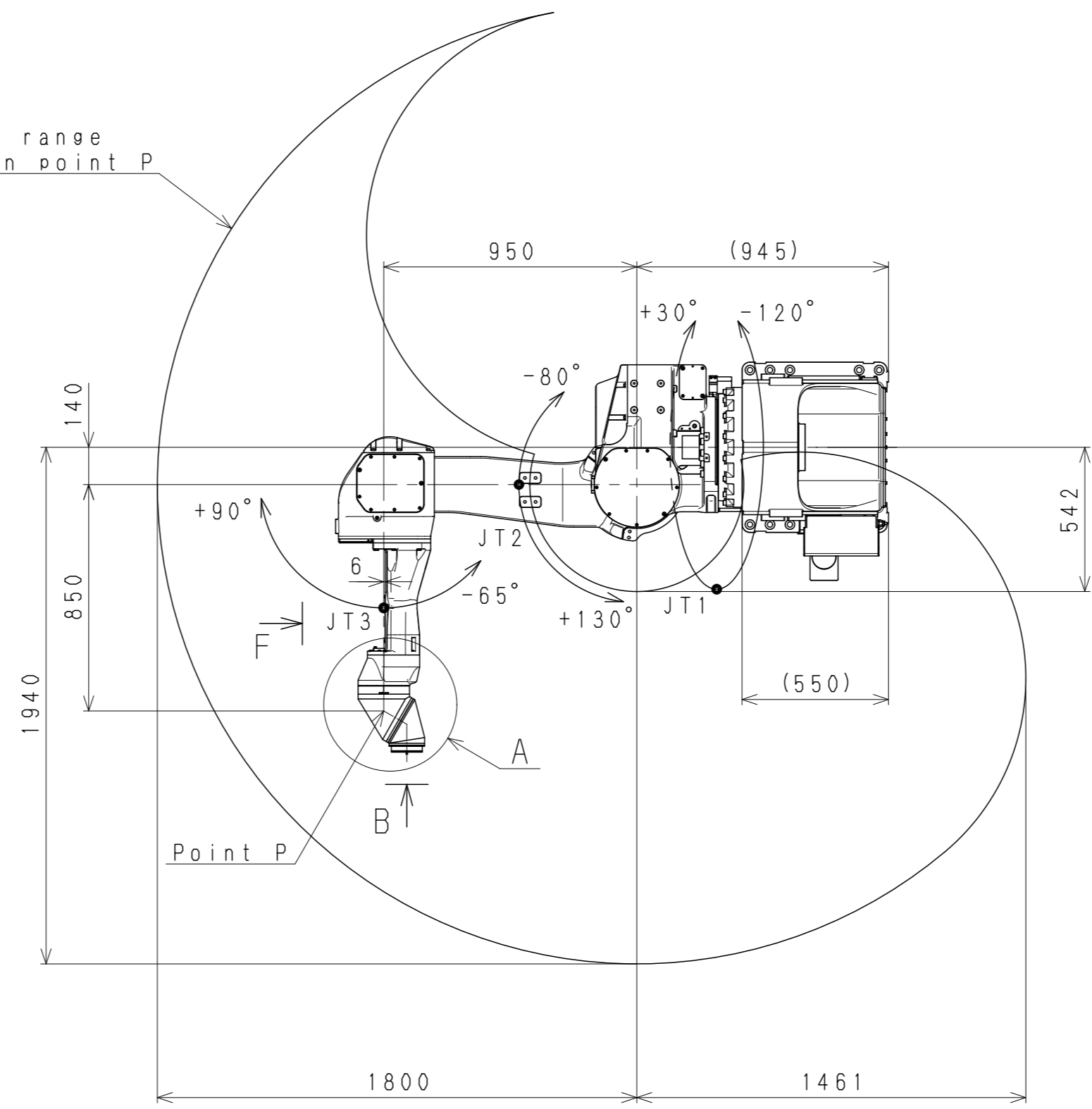
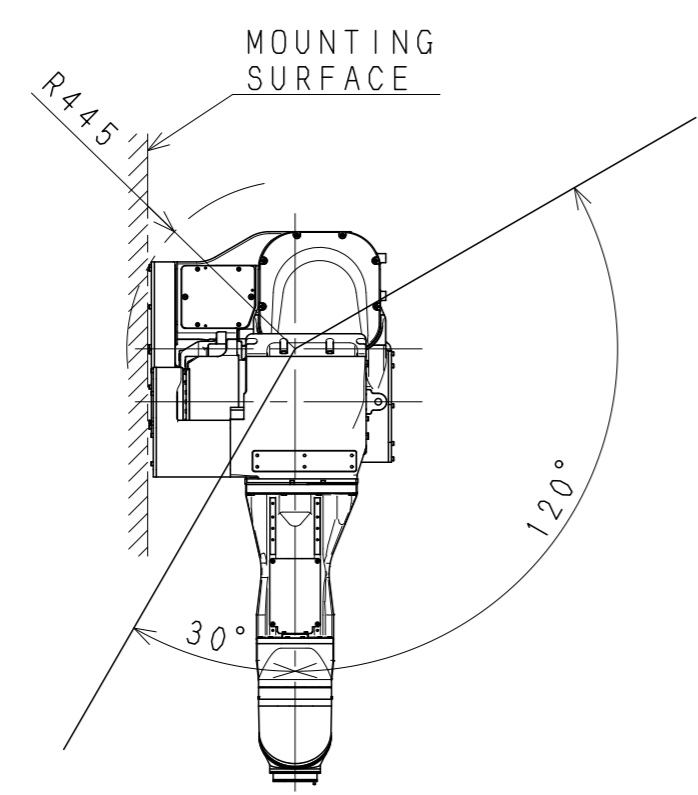


Base Installation Dimensions

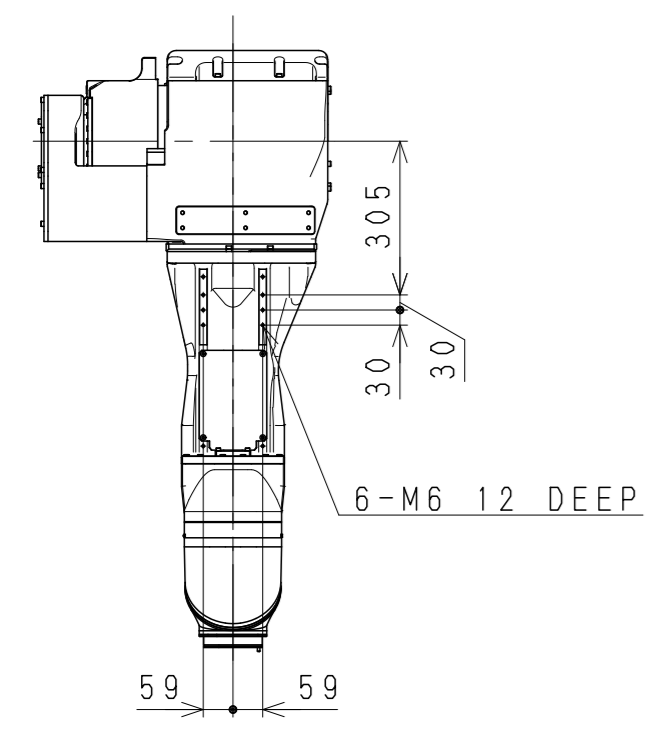


VIEW E

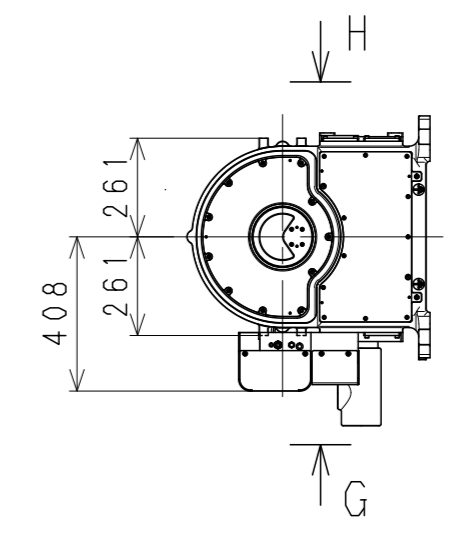
Working range based on point P



VIEW H

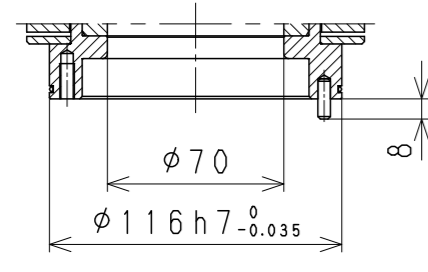


VIEW F

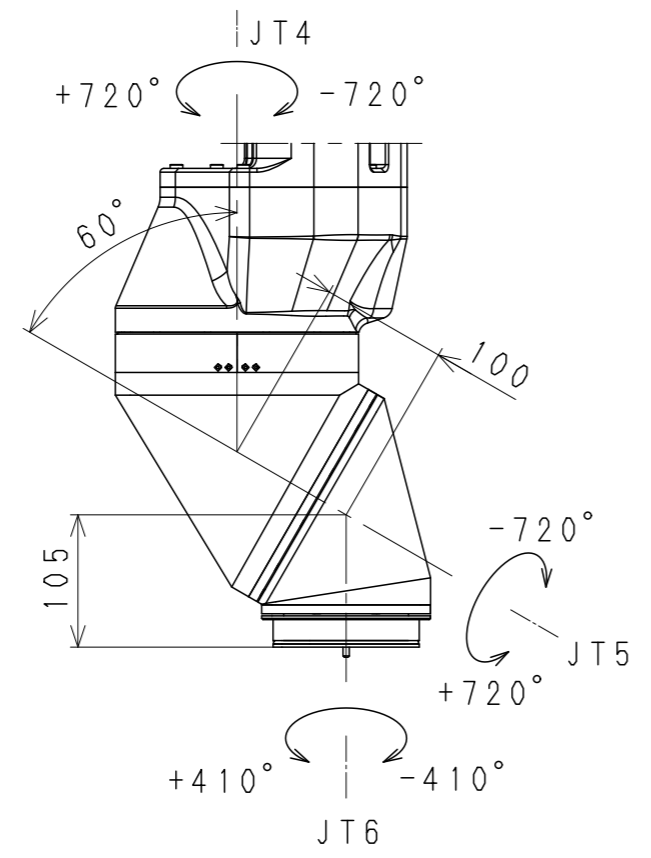


VIEW G

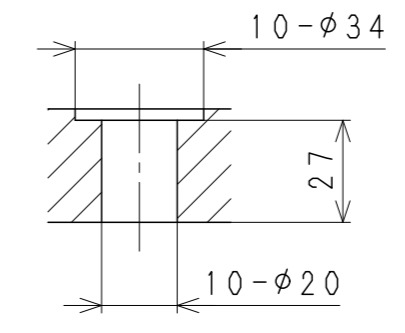
KJ194U-F5
(FIX INSTALLATION)
WORKING RANGE



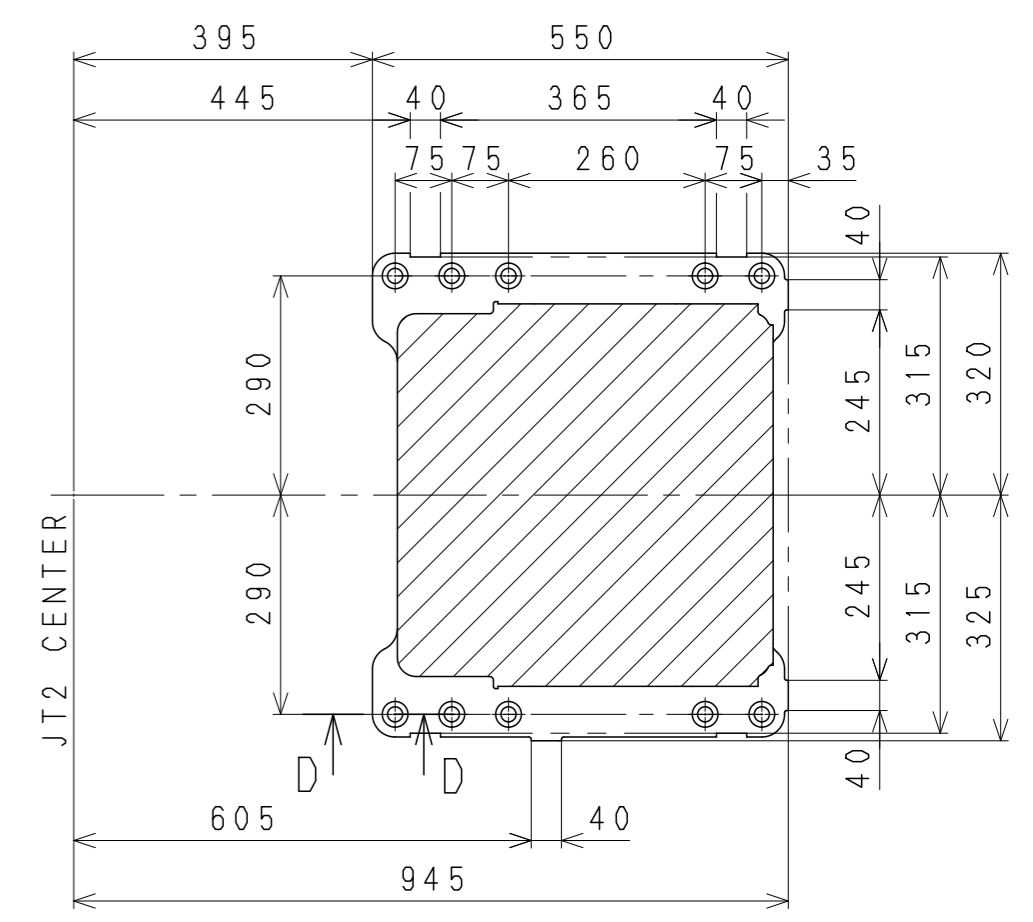
SECTION C-C



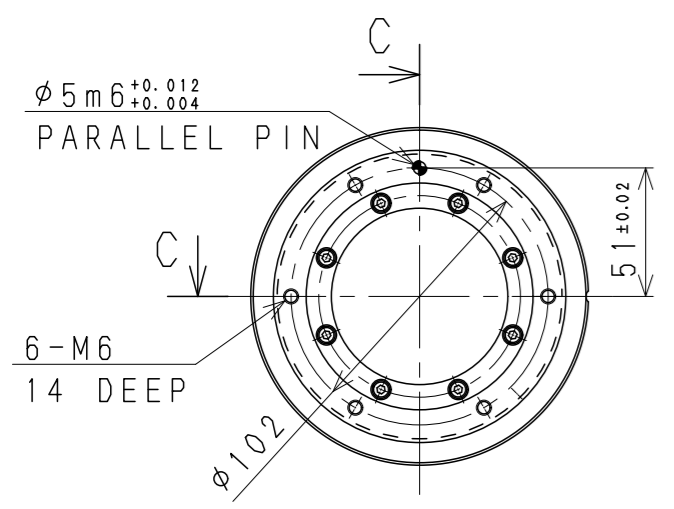
DETAIL A



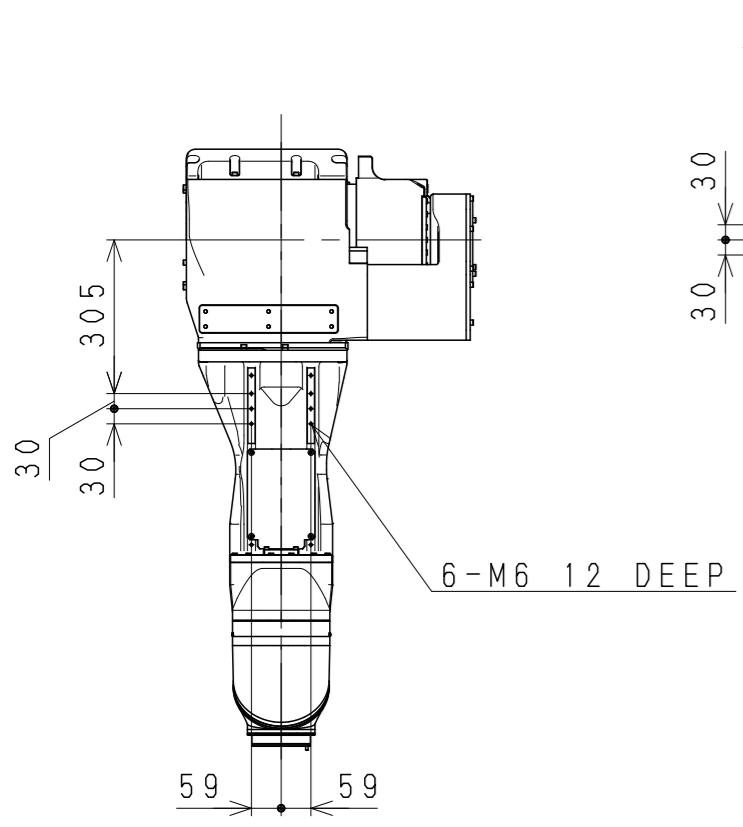
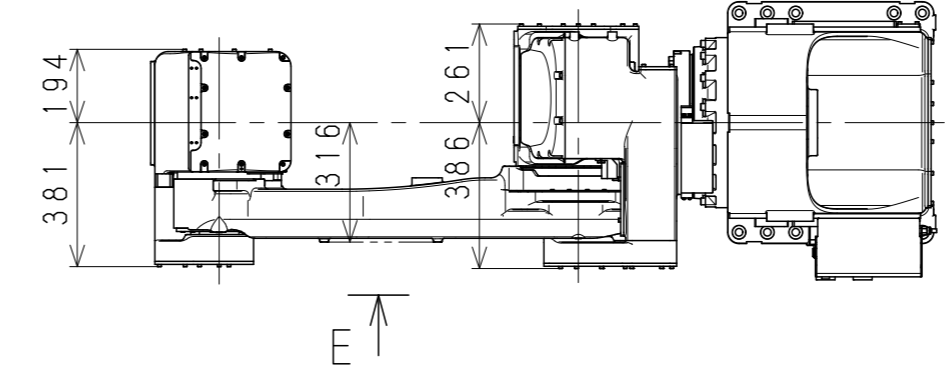
SECTION D-D



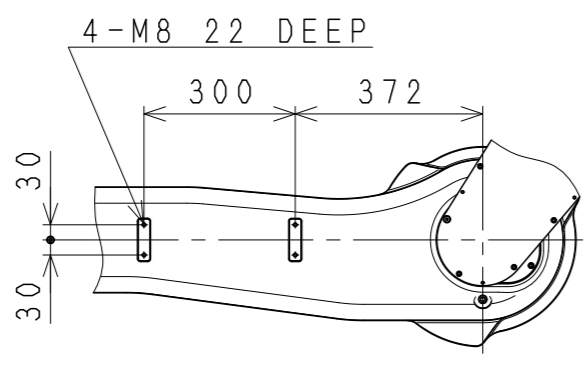
Base Installation Dimensions



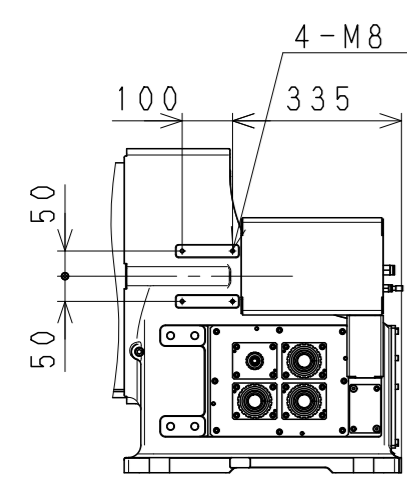
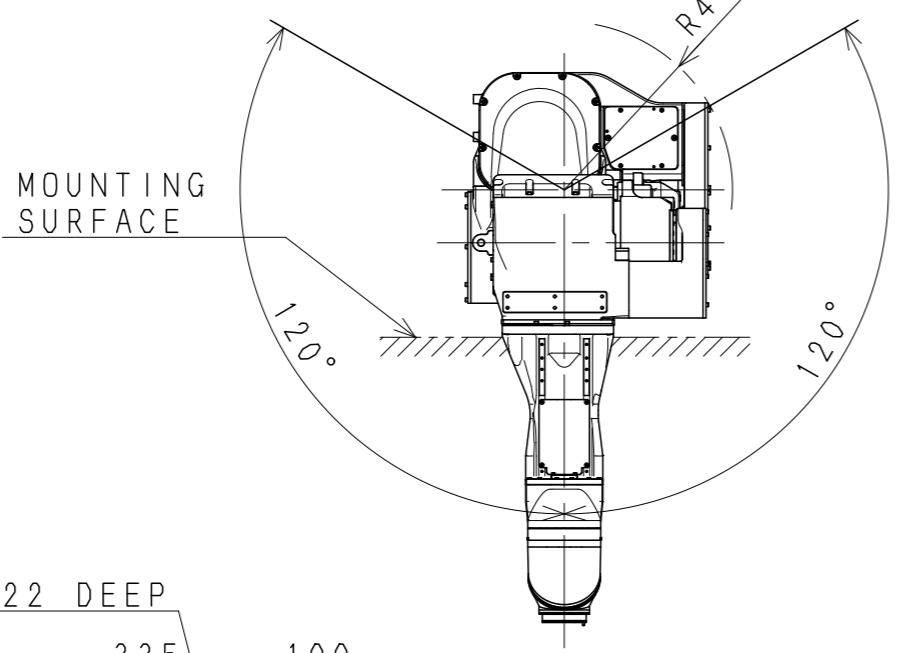
VIEW B



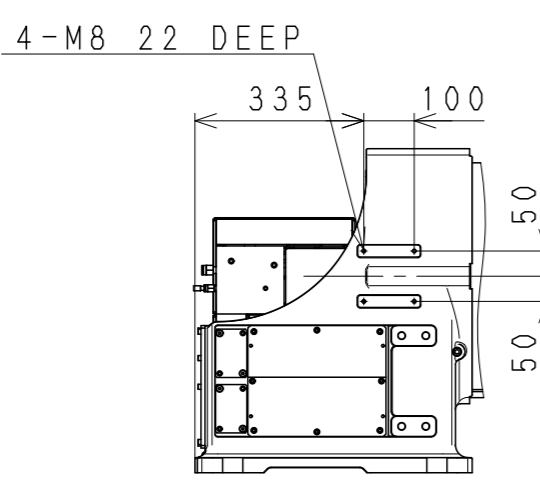
VIEW F



VIEW E

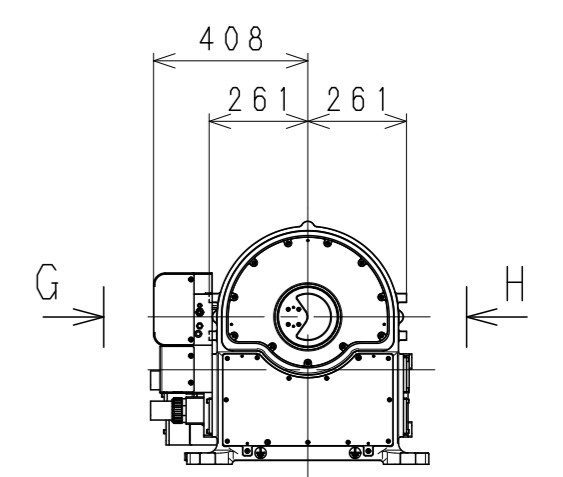
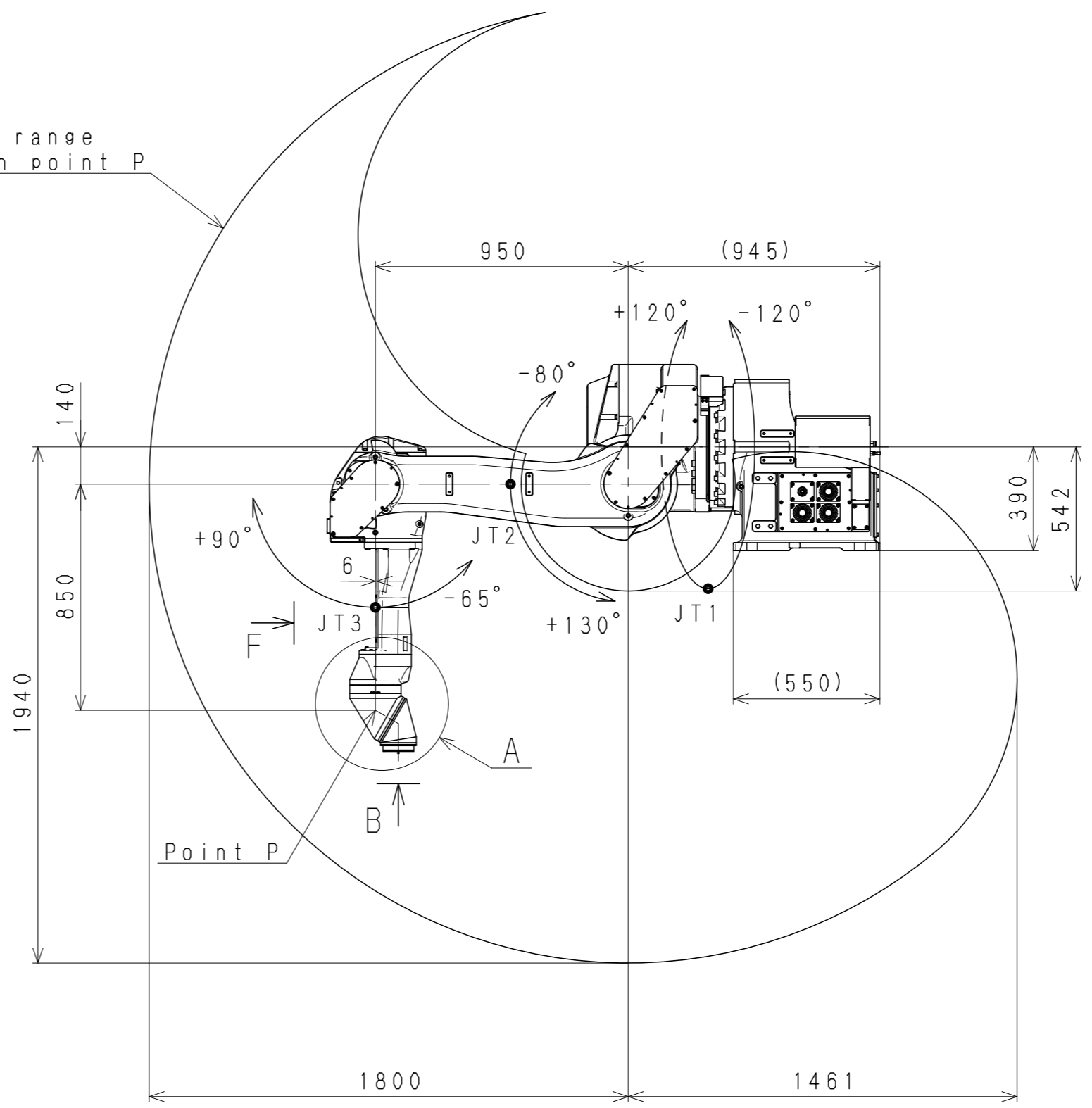


VIEW G

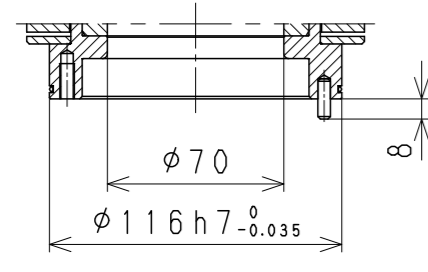


VIEW H

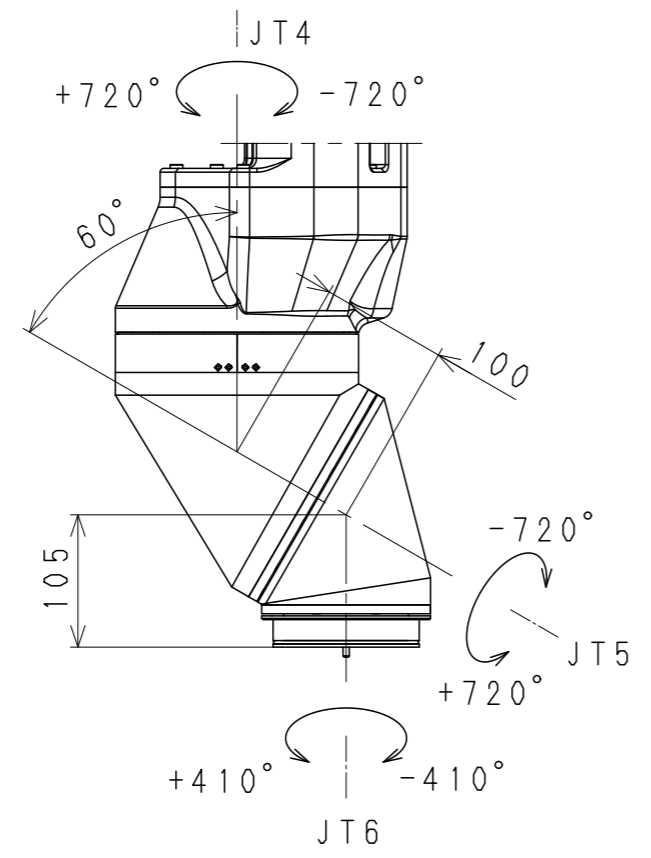
Working range based on point P



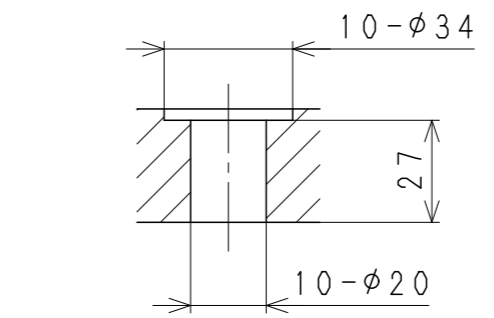
KJ194U-H0
(FLEXIBLE INSTALLATION)
WORKING RANGE



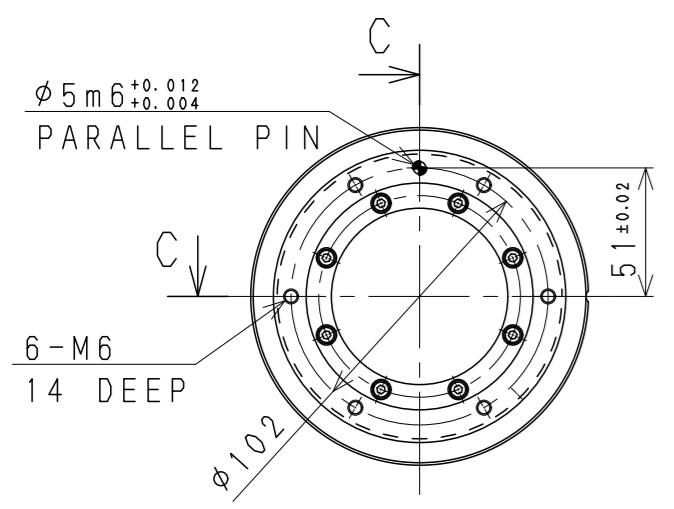
SECTION C-C



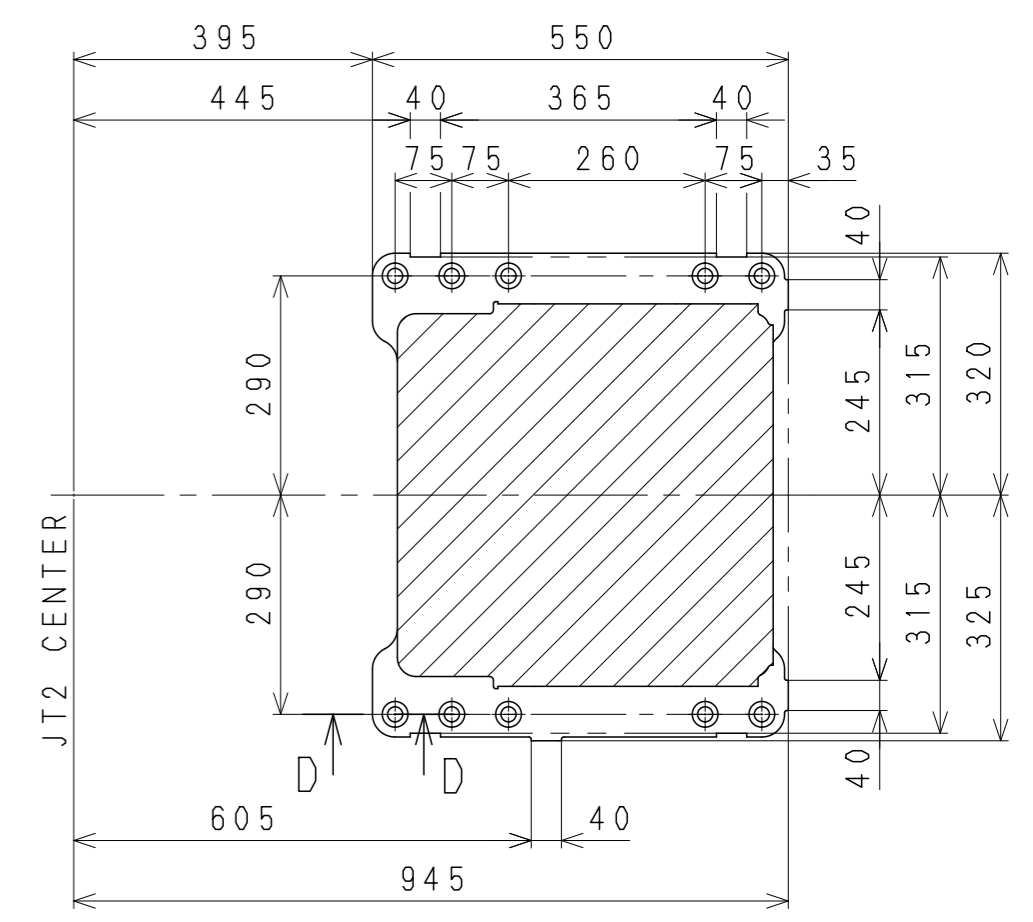
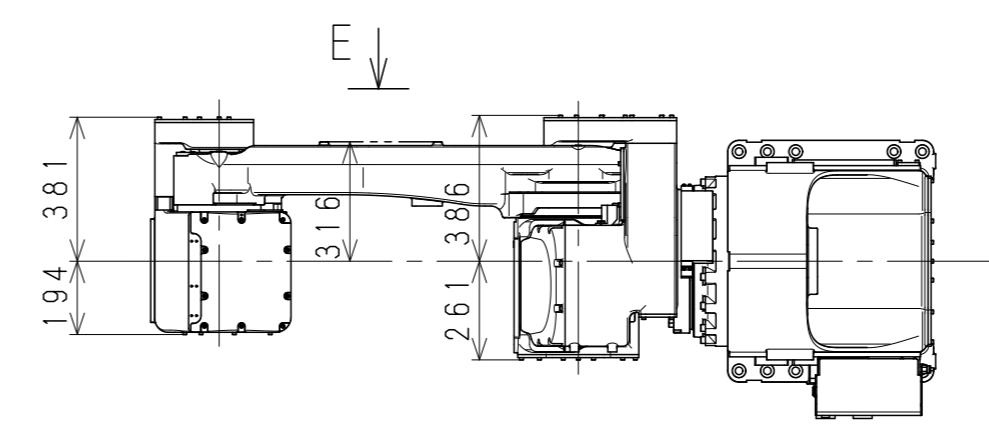
DETAIL A



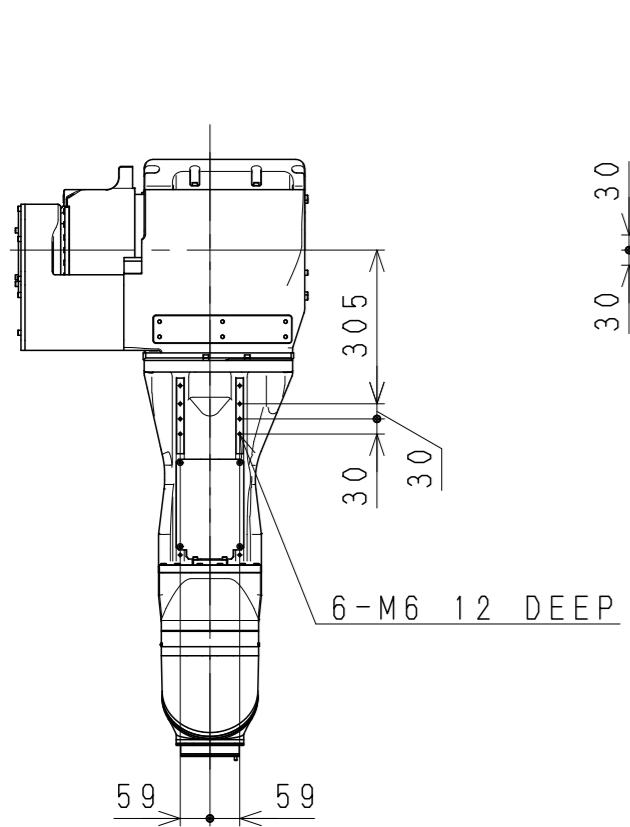
SECTION D-D



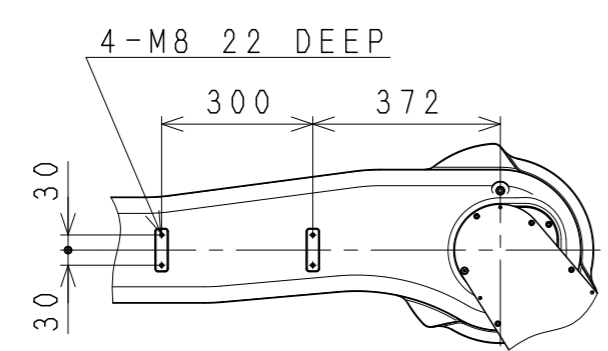
VIEW B



Base Installation Dimensions

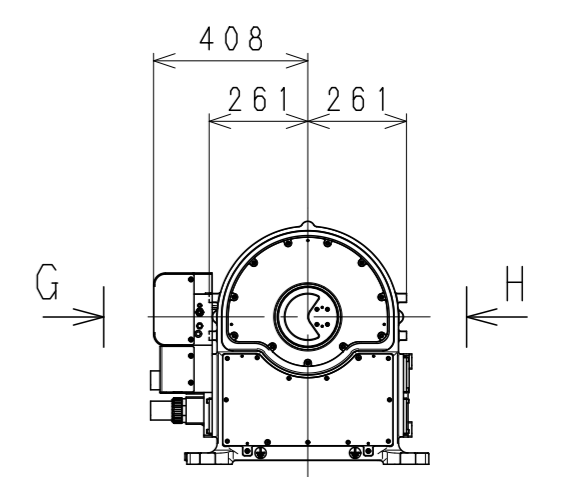
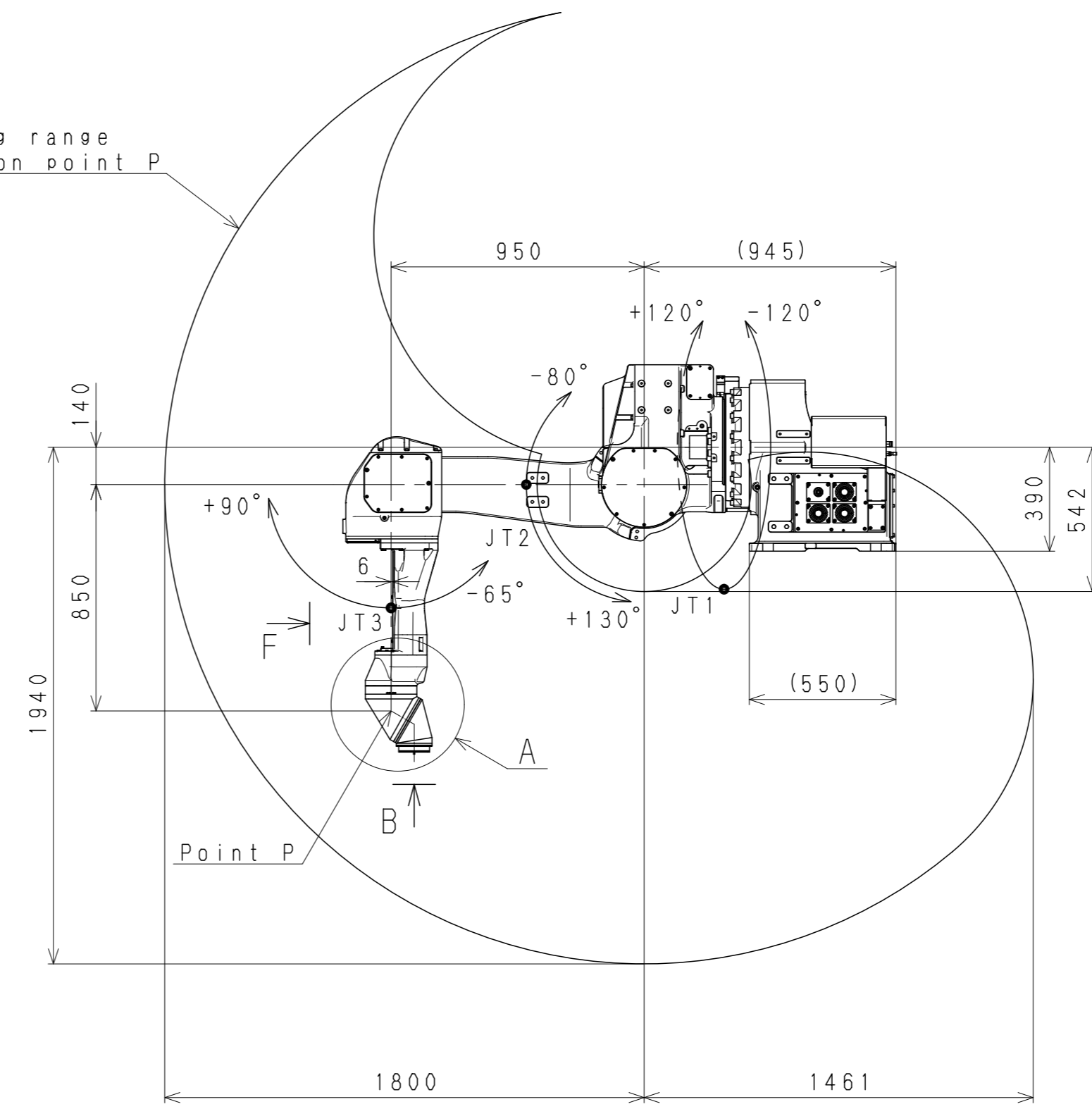
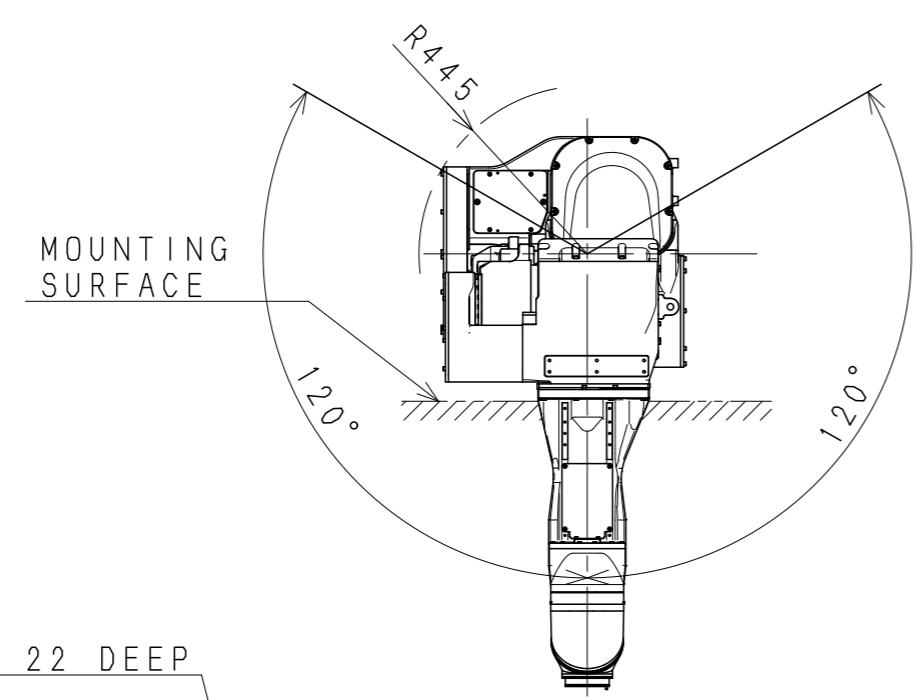


VIEW F

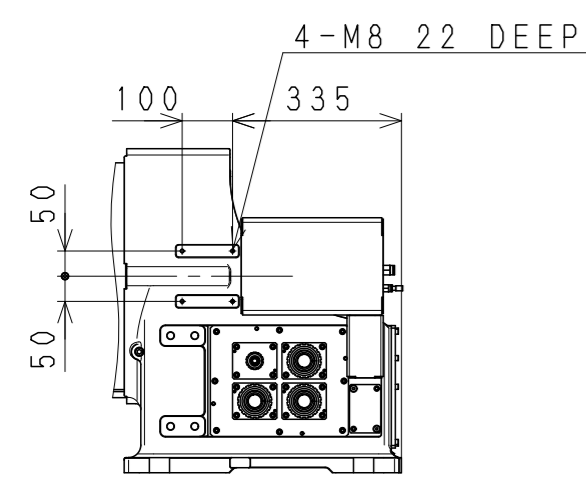


VIEW E

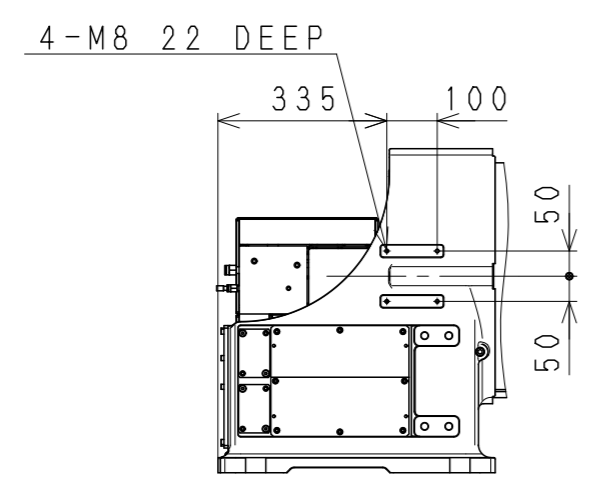
Working range based on point P



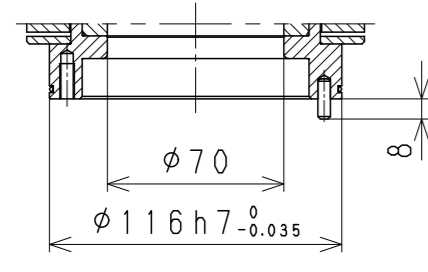
KJ194U-H1
(FLEXIBLE INSTALLATION)
WORKING RANGE



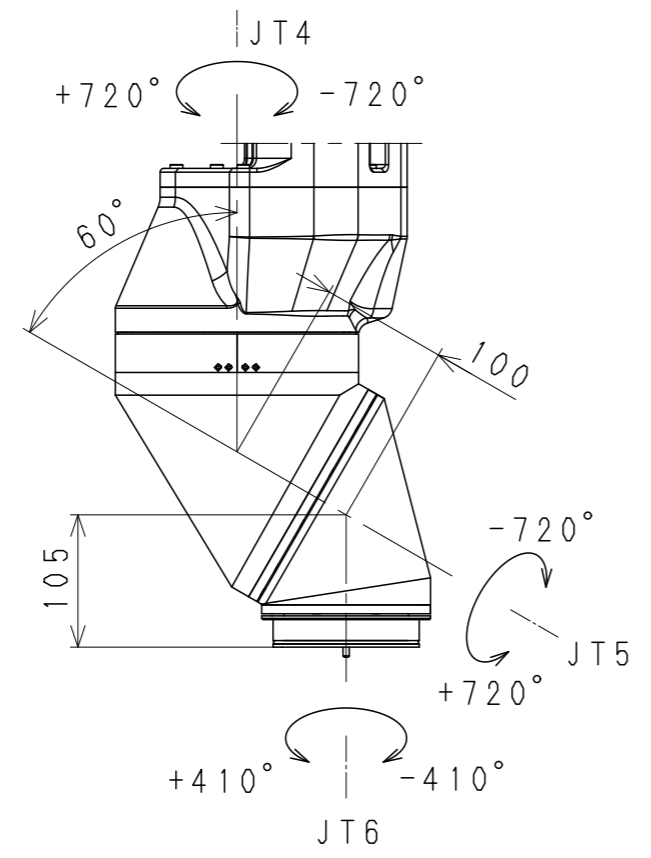
VIEW G



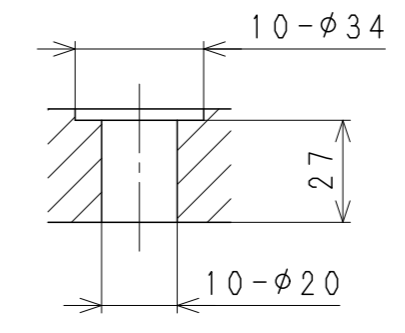
VIEW H



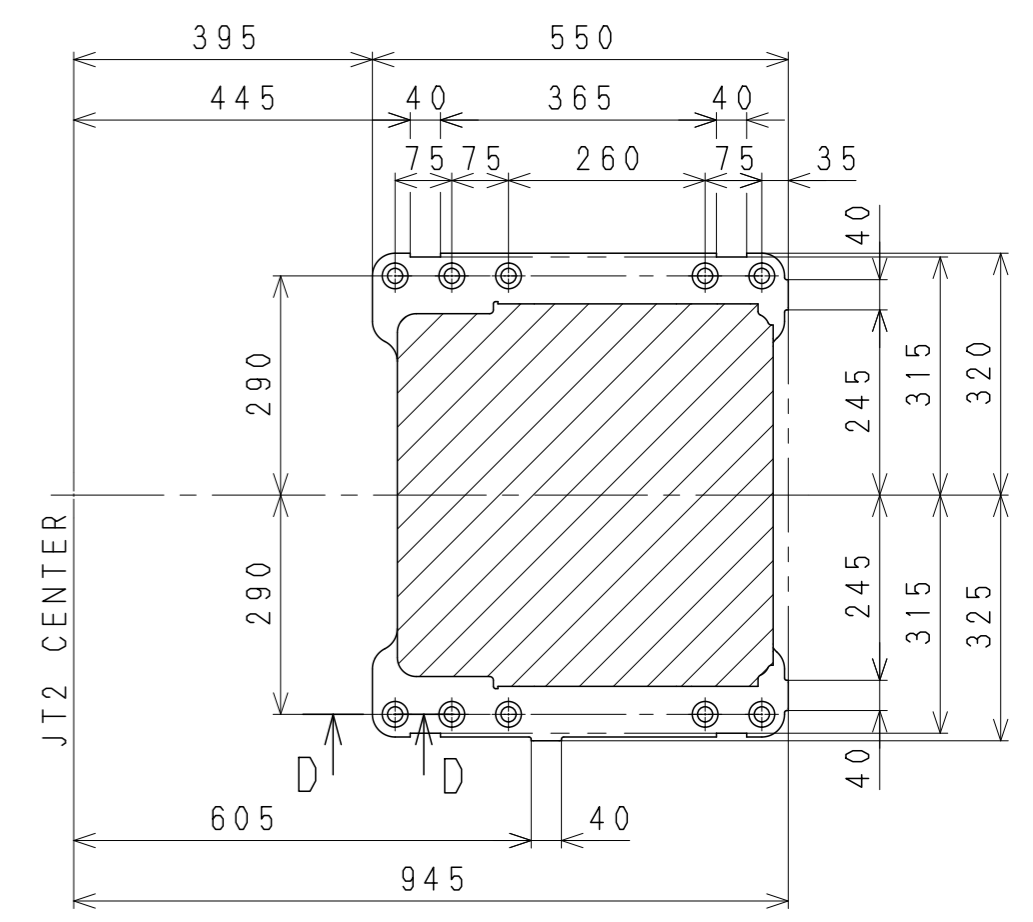
SECTION C-C



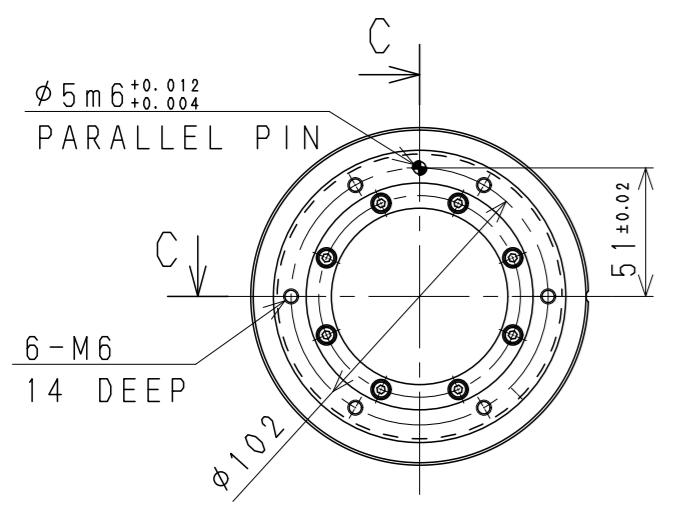
DETAIL A



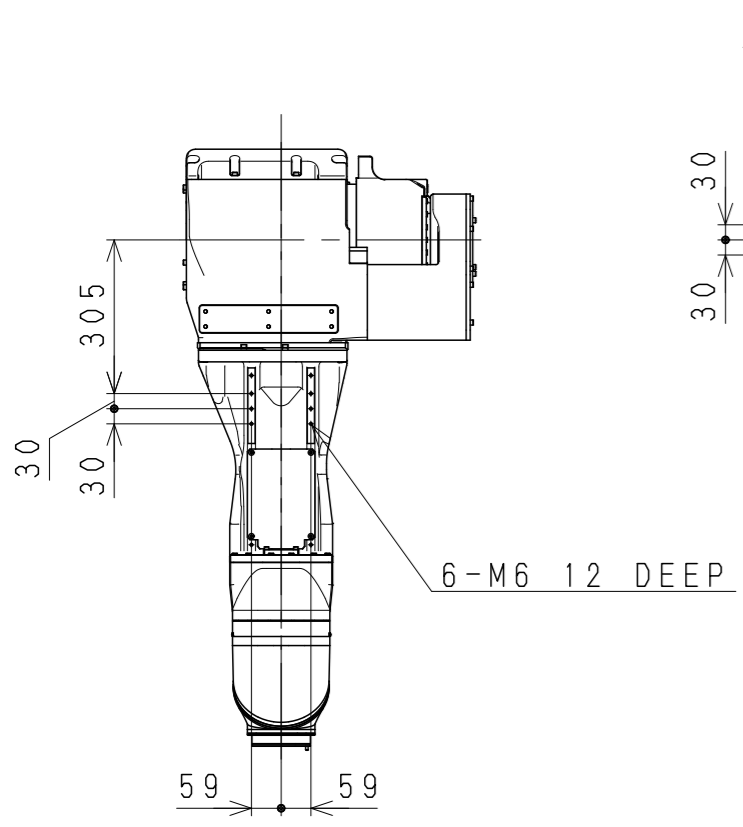
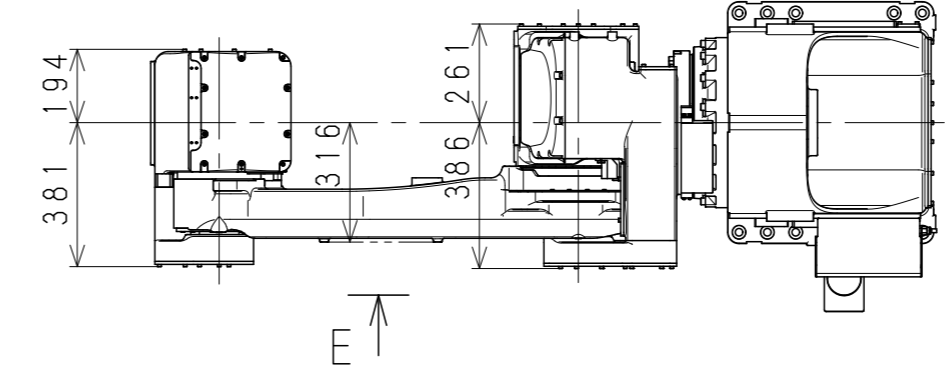
SECTION D-D



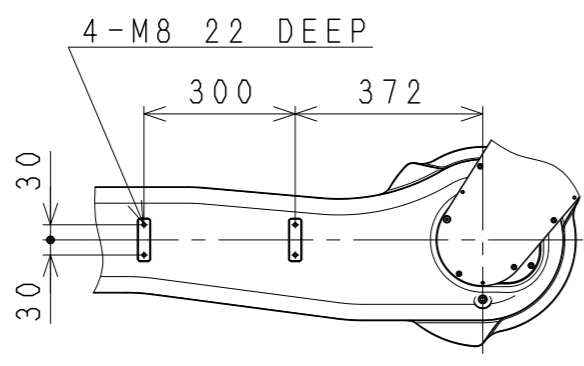
Base Installation Dimensions



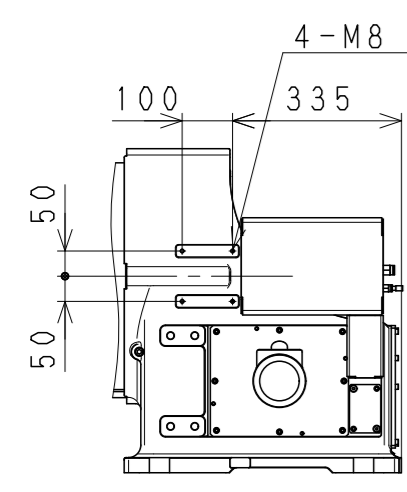
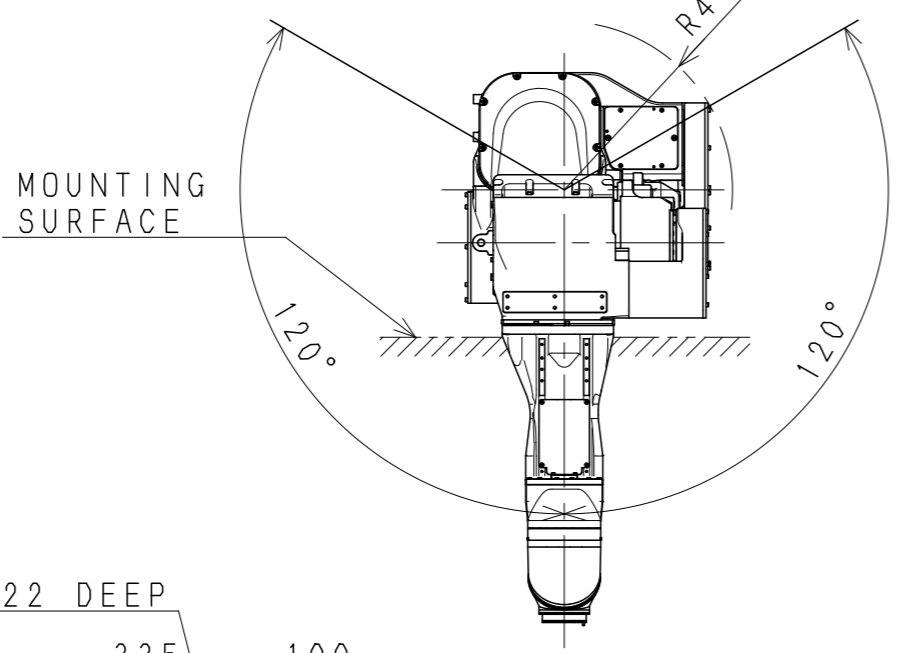
VIEW B



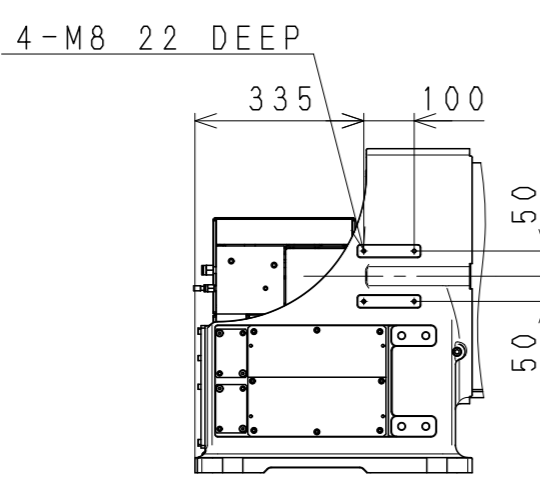
VIEW F



VIEW E

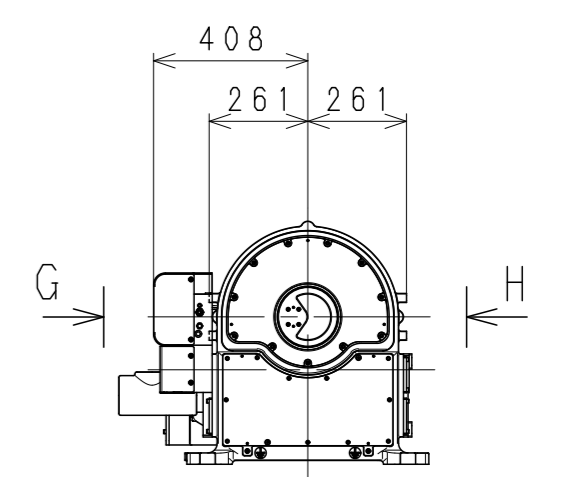
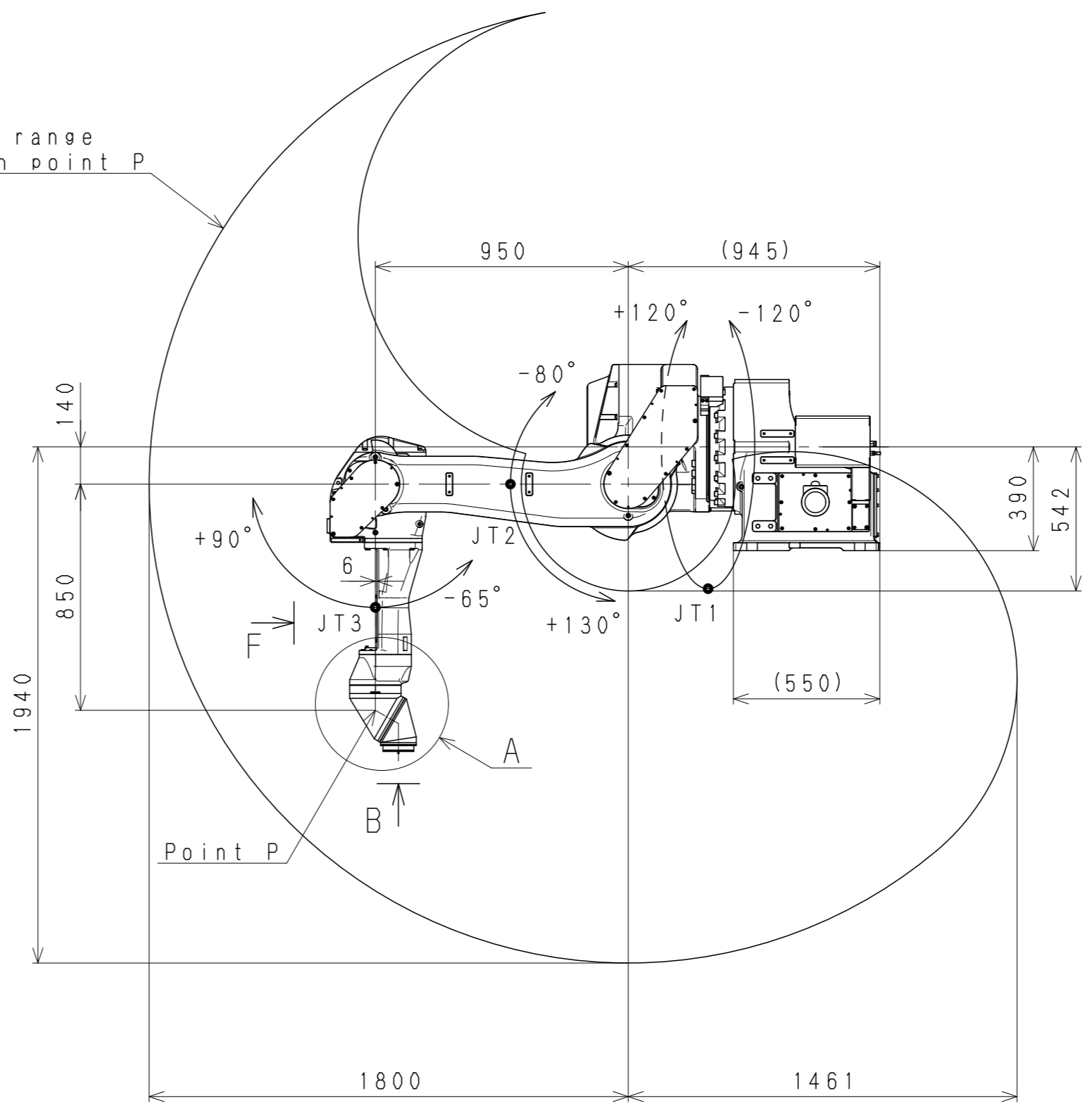


VIEW G

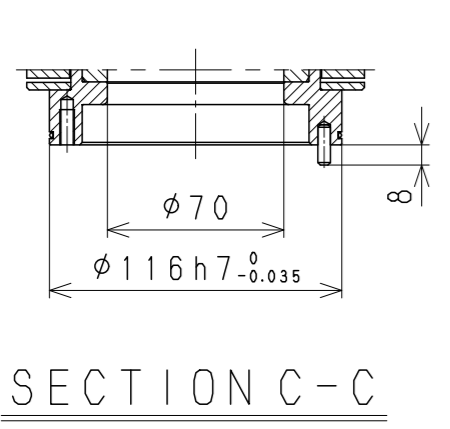


VIEW H

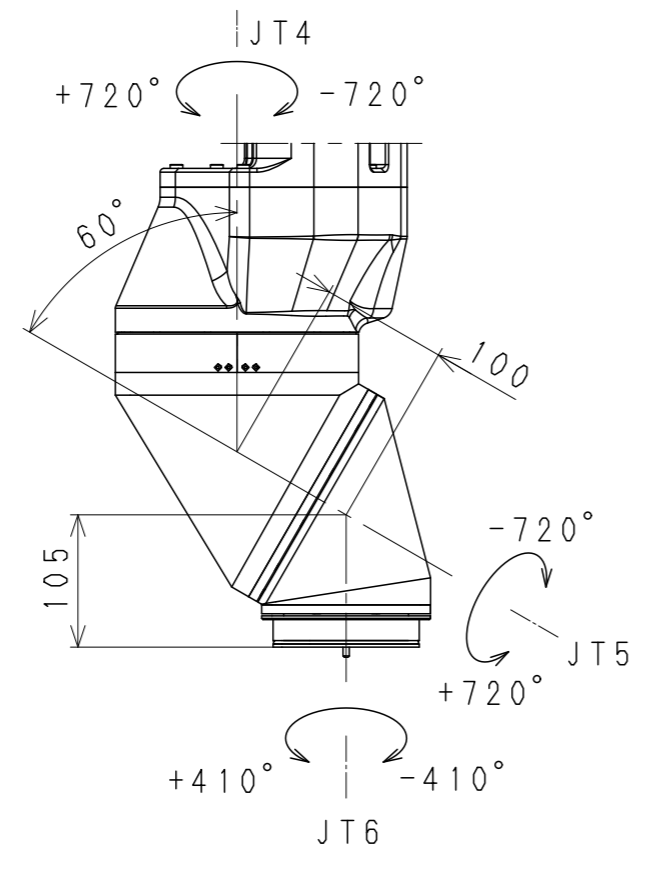
Working range based on point P



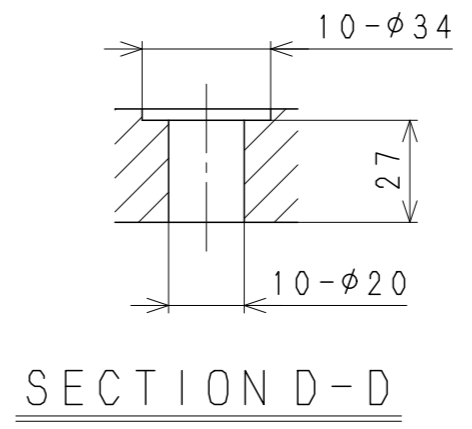
KJ194U-H4
(FIX INSTALLATION)
WORKING RANGE



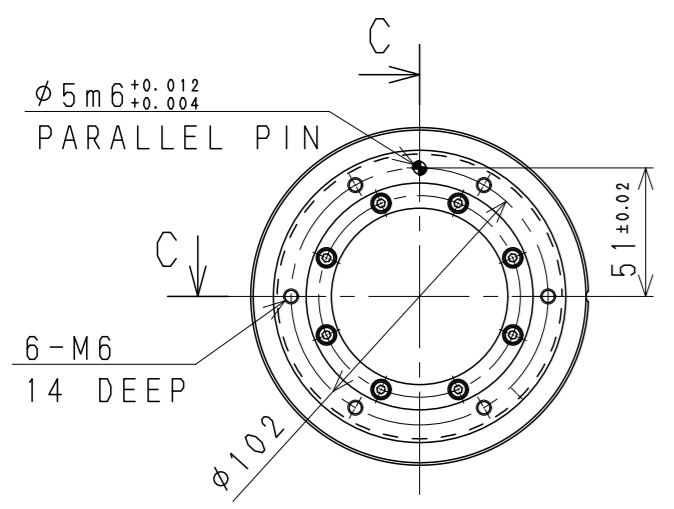
SECTION C-C



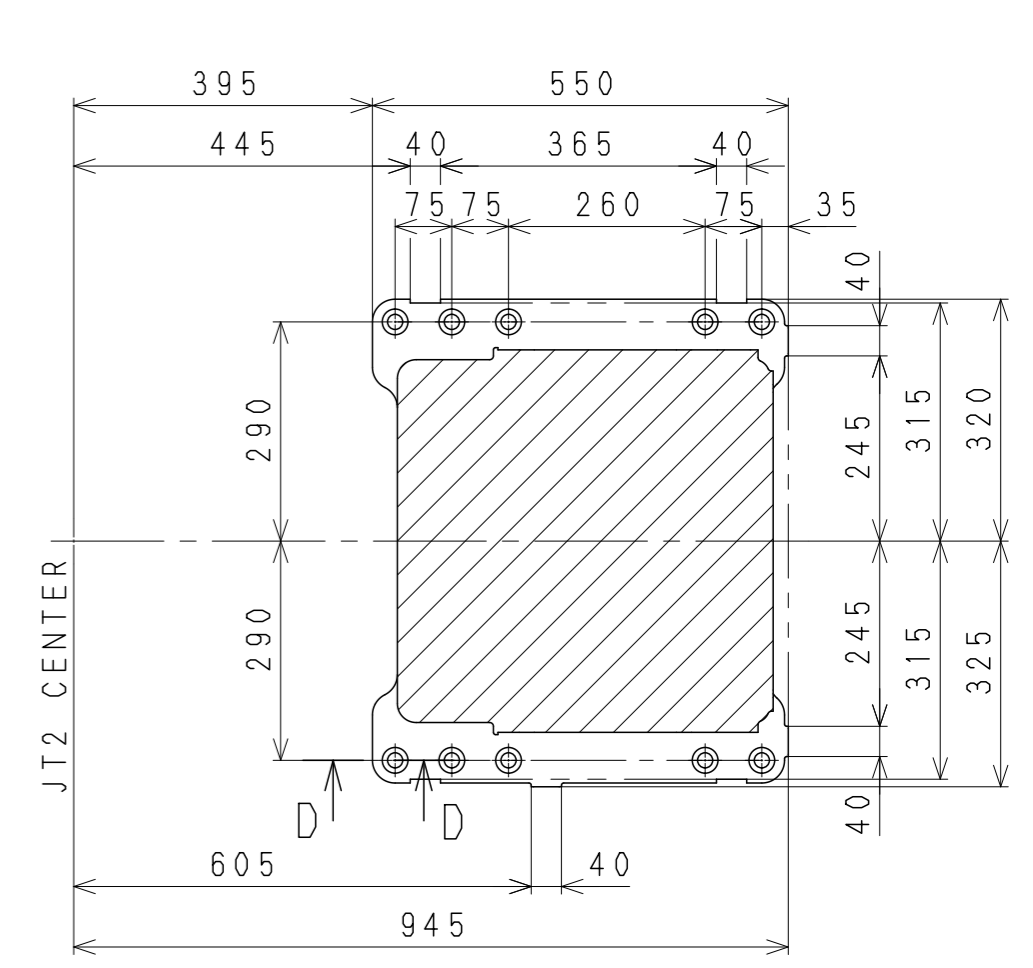
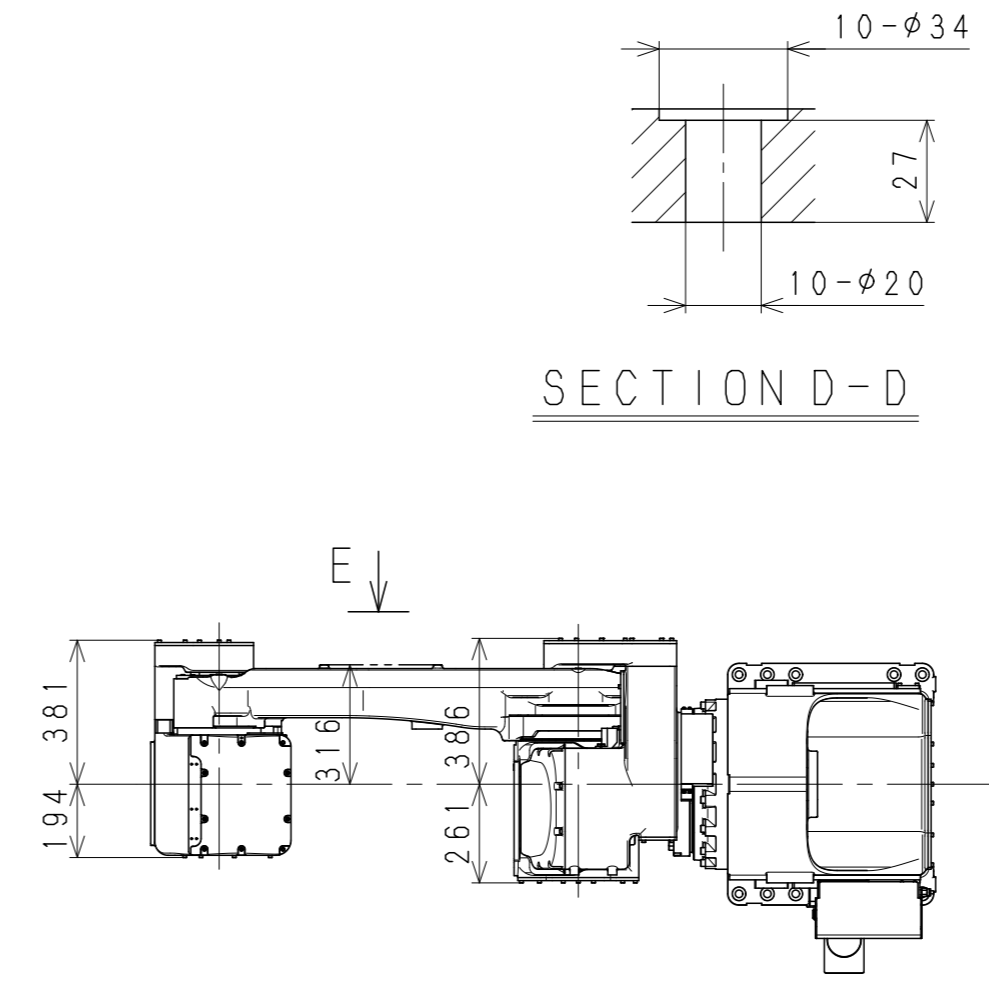
DETAIL A



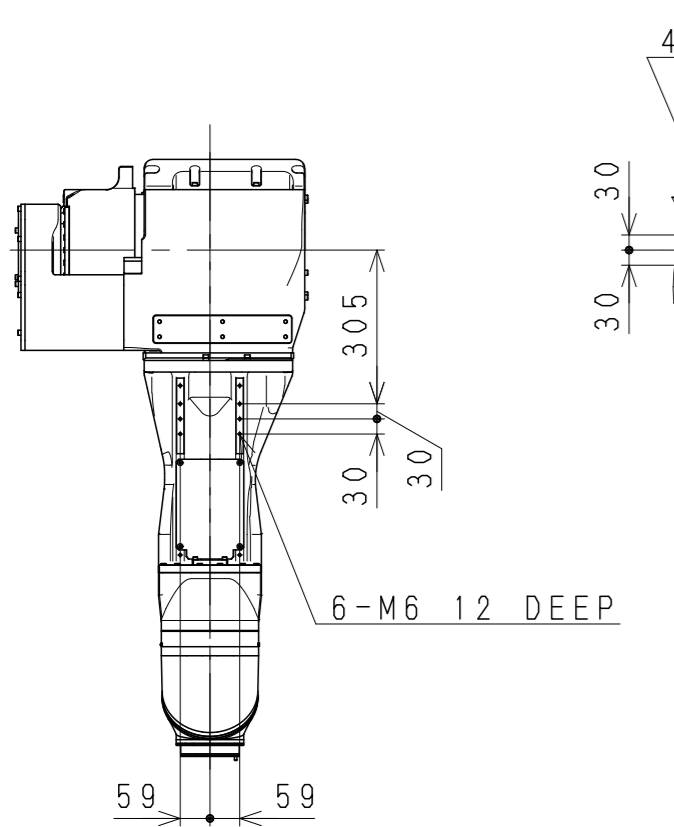
SECTION D-D



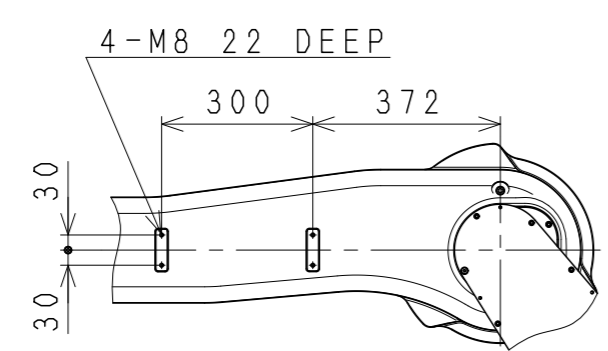
VIEW B



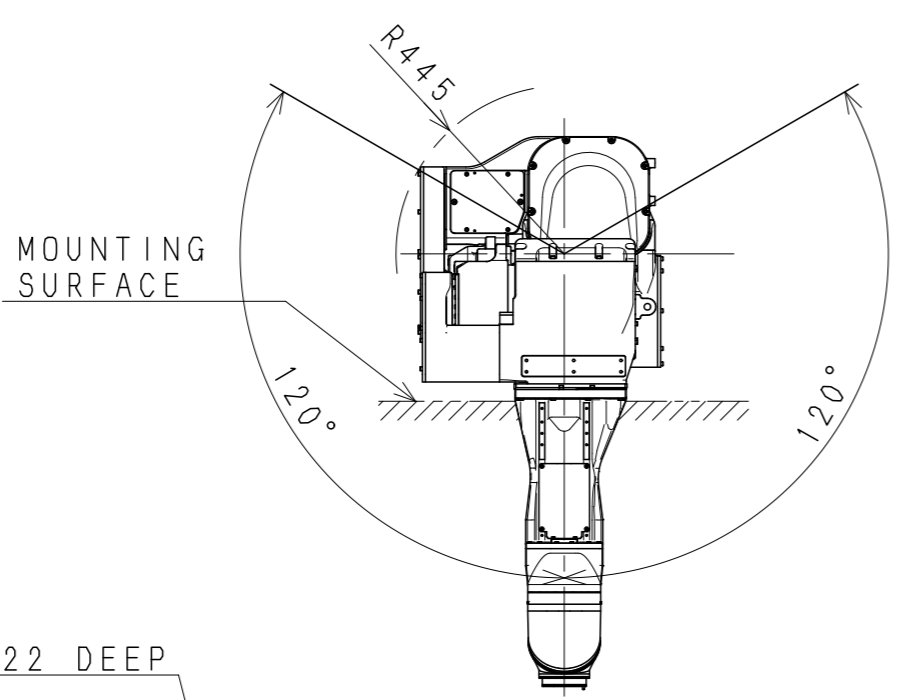
Base Installation Dimensions



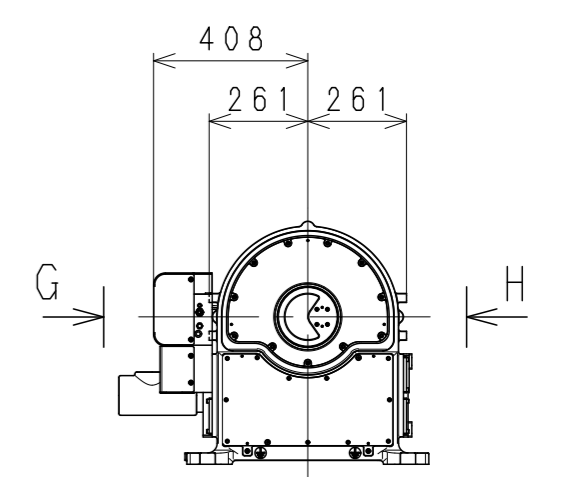
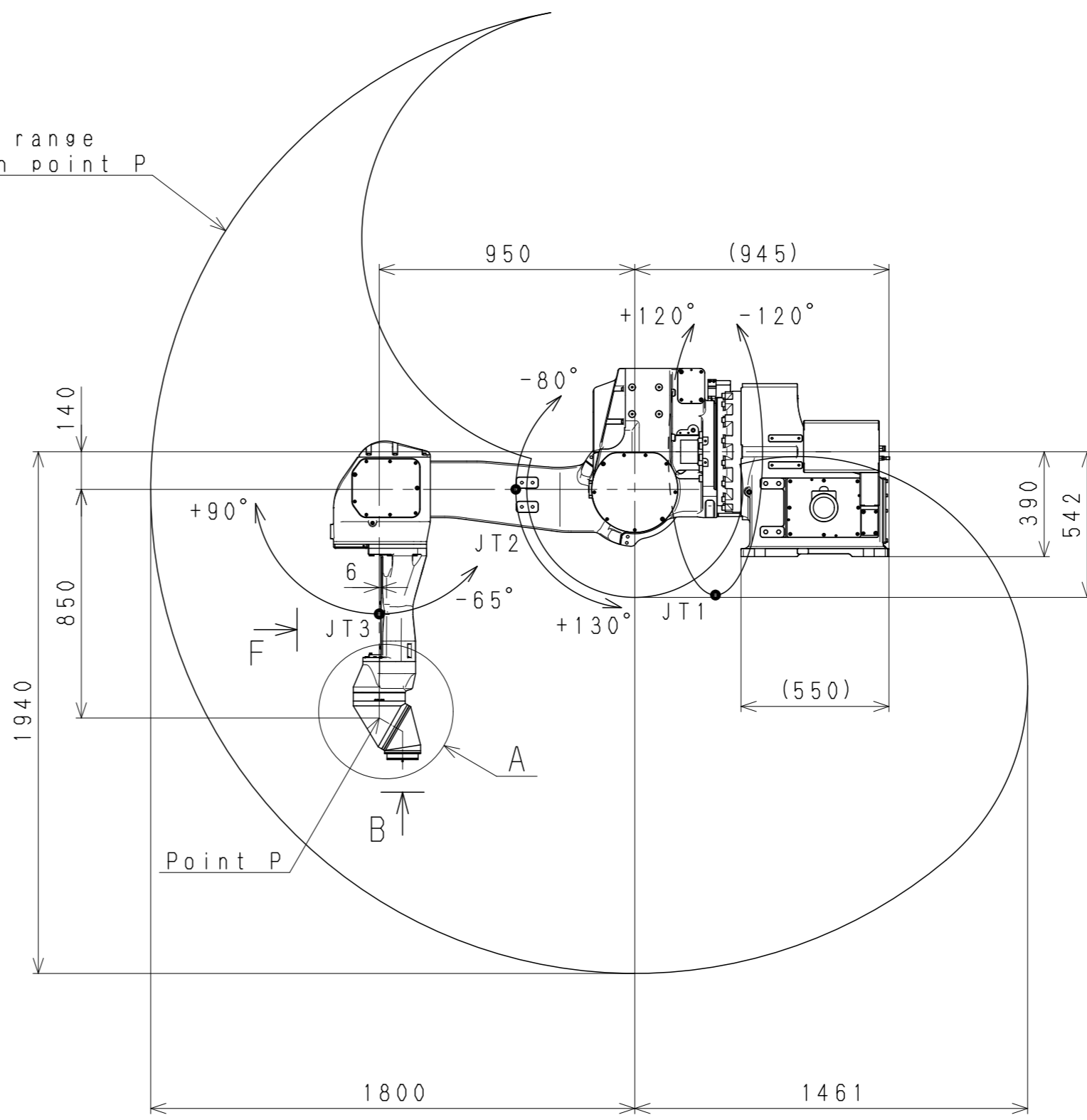
VIEW F



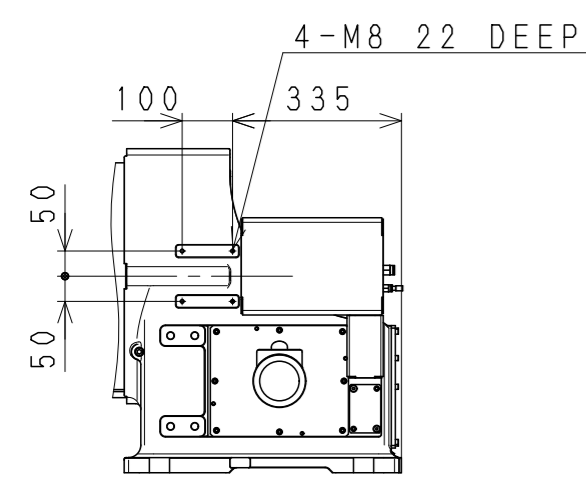
VIEW E



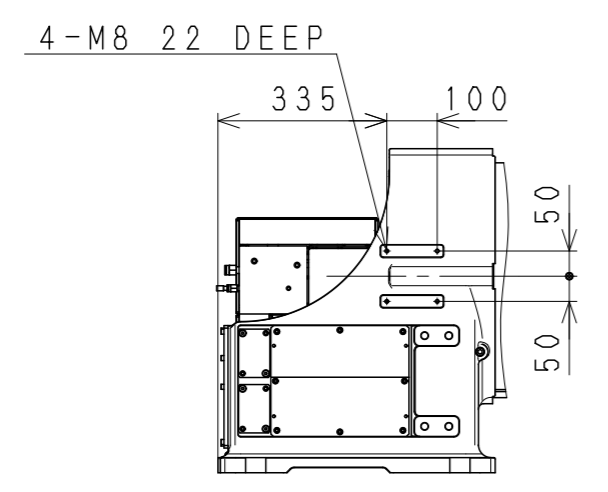
Working range based on point P



KJ194U-H5
(FIX INSTALLATION)
WORKING RANGE



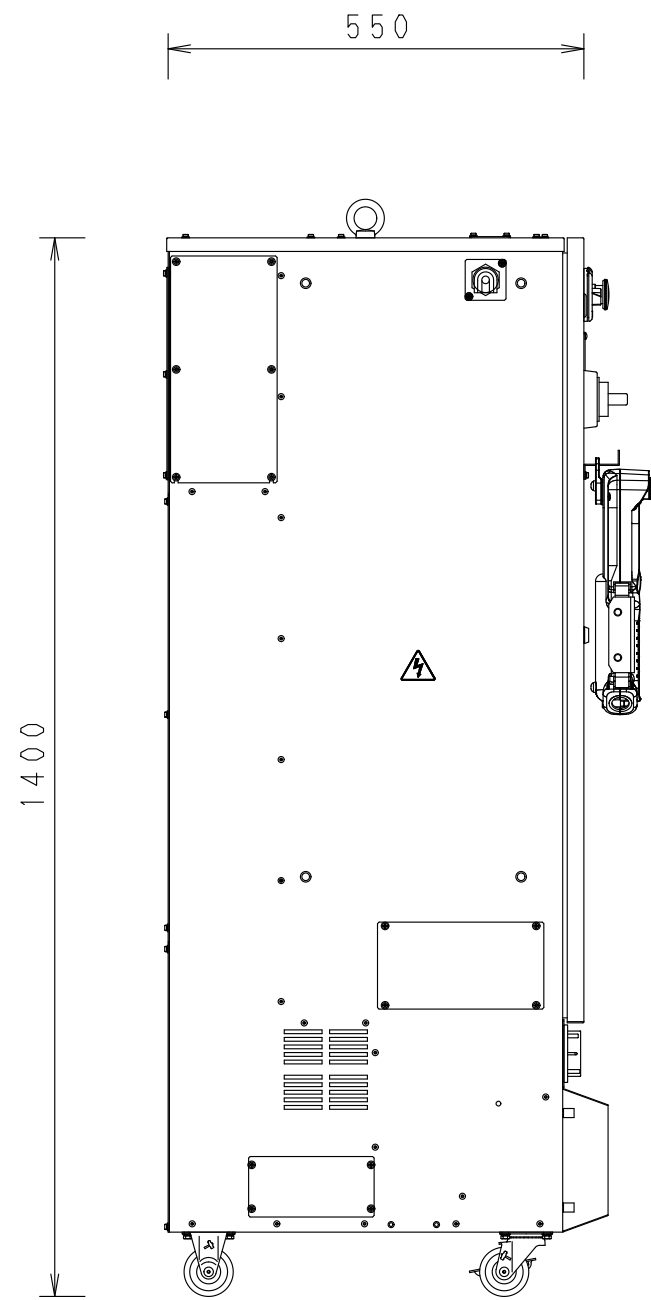
VIEW G



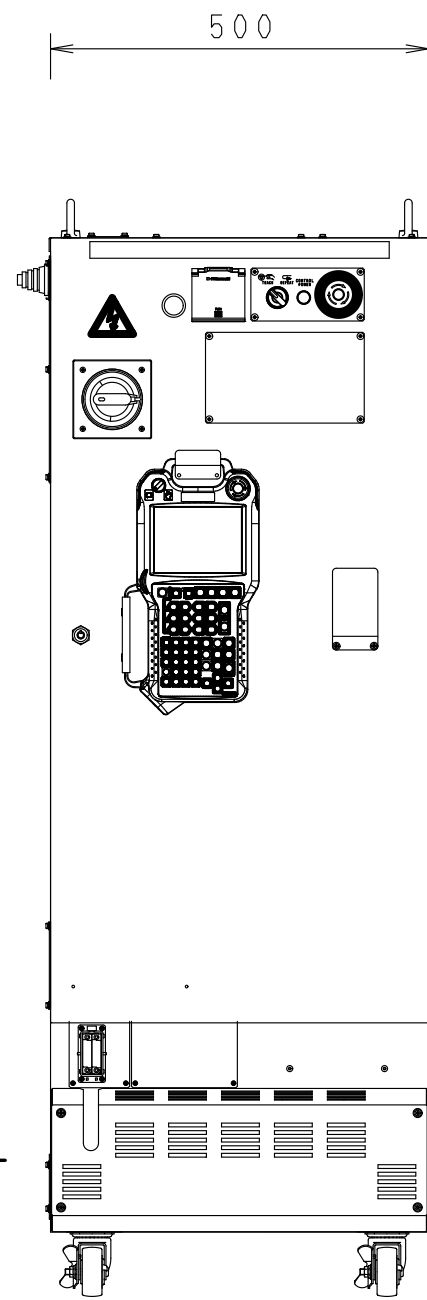
VIEW H

E35/E37 CONTROLLER

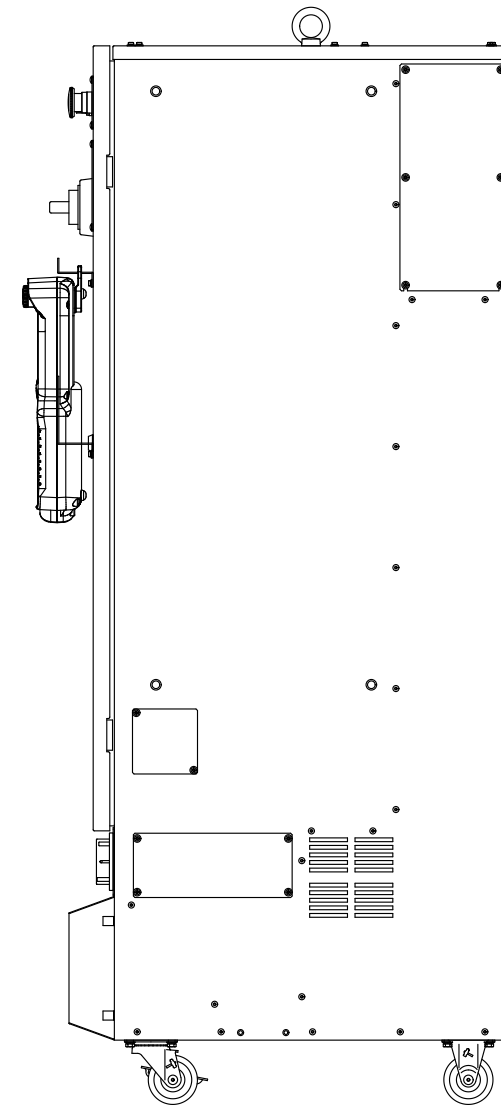
MASS : 170Kg



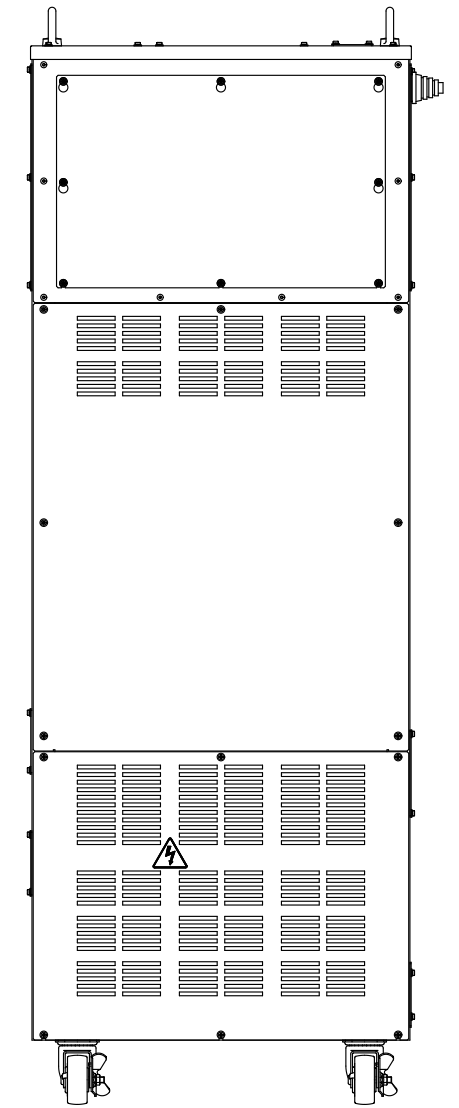
SIDE VIEW



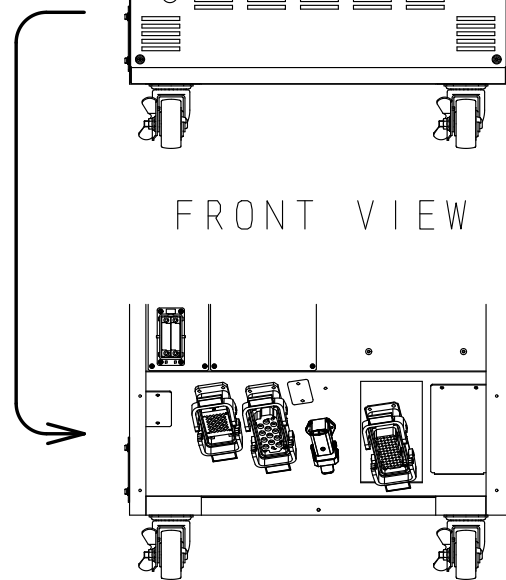
FRONT VIEW



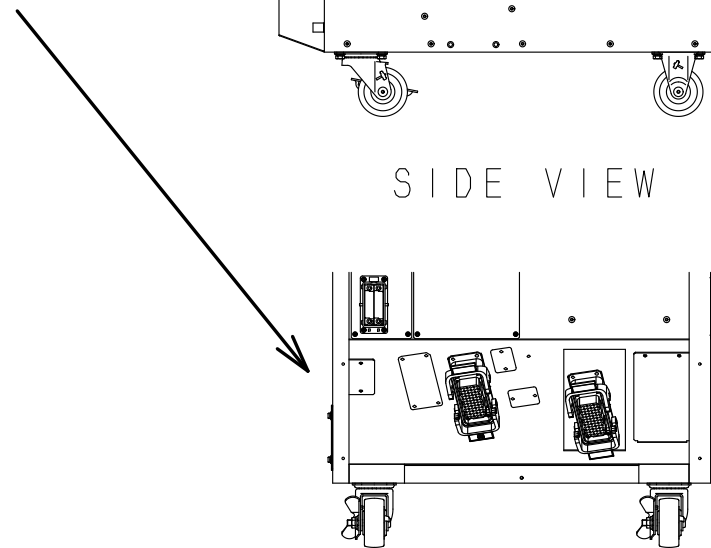
SIDE VIEW



REAR VIEW



WITHOUT CONNECTOR COVER (E35)



WITHOUT CONNECTOR COVER (E37)