

3. Basic specifications

3.1 Basic specifications

Robot model: 【Presto ST133F-01】【Presto ST166F-01】【Presto ST210F-01】

Item		Specifications		
Robot model		Presto ST133F-01	Presto ST166F-01	Presto ST210F-01
Construction		Articulated		
Number of axis		6		
Drive system		AC servo motor		
Max. working envelope	J1 axis	±3.14 rad		
	J2 axis	+1.05 ~ -1.40rad		
	J3 axis	+2.62 ~ -2.40 rad		
	J4 axis	±6.28 rad		
	J5 axis	±2.36 rad	±2.27 rad	
	J6 axis	±6.28 rad		
Max. speed	J1 axis	2.27 rad/s	1.92 rad/s	1.75 rad/s
	J2 axis	2.27 rad/s	1.92 rad/s	1.57 rad/s
	J3 axis	2.27 rad/s	1.92 rad/s	1.66 rad/s
	J4 axis	4.01 rad/s	2.97 rad/s	2.27 rad/s
	J5 axis	4.01 rad/s	2.97 rad/s	2.27 rad/s
	J6 axis	5.32 rad/s	4.54 rad/s	3.49 rad/s
Max. pay load	Wrist	133 kg	166 kg	210 kg
	Forearm *1	45 kg		
Allowable static load torque	J4 axis	745 N·m	951 N·m	1,337 N·m
	J5 axis	745 N·m	951 N·m	1,337 N·m
	J6 axis	411 N·m	490 N·m	720 N·m
Allowable moment of inertia *2	J4 axis	60.9 kg·m	88.9 kg·m	141.1 kg·m
	J5 axis	60.9 kg·m	88.9 kg·m	141.1 kg·m
	J6 axis	30.2 kg·m	45.0 kg·m	79.0 kg·m
Position repeatability *3		±0.2 mm		±0.3 mm
Ambient temperature		0 ~ 45 °C		
Robot type		Floor mount		
Robot mass		1,070 kg		1,110 kg

 $1[\text{rad}] = 180/\pi [^\circ]$, $1[\text{N}\cdot\text{m}] = 1/9.8[\text{kgf}\cdot\text{m}]$

※ The specification and externals described in this specifications might change without a previous notice for the improvement.

*1: This value changes by placement and load conditions of a wrist.

*2: The Allowable moment of inertia of a wrist changes with load conditions of a wrist.

*3: This value conforms to "JIS B 8432".

Robot model: 【Presto ST133F-01A】【Presto ST166F-01A】【Presto ST210F-01A】

Item		Specifications		
Robot model		Presto ST133F-01A	Presto ST166F-01A	Presto ST210F-01A
Construction		Articulated		
Number of axis		6		
Drive system		AC servo motor		
Max. working envelope	J1 axis	±3.14 rad		
	J2 axis	+1.05 ~ -1.40rad		
	J3 axis	+2.62 ~ -2.40rad		
	J4 axis	±3.67 rad		
	J5 axis	±2.09 rad		
	J6 axis	±3.58 rad		
Max. speed	J1 axis	2.27 rad/s	1.92 rad/s	1.75 rad/s
	J2 axis	2.27 rad/s	1.92 rad/s	1.57 rad/s
	J3 axis	2.27 rad/s	1.92 rad/s	1.66 rad/s
	J4 axis	4.01 rad/s	2.97 rad/s	2.27 rad/s
	J5 axis	4.01 rad/s	2.97 rad/s	2.27 rad/s
	J6 axis	5.32 rad/s	4.54 rad/s	3.49 rad/s
Max. pay load	Wrist	133 kg	166 kg	210 kg
	Forearm *1	15 kg		
Allowable static load torque	J4 axis	745 N·m	951 N·m	1,337 N·m
	J5 axis	745 N·m	951 N·m	1,337 N·m
	J6 axis	411N·m	490 N·m	720 N·m
Allowable moment of inertia *2	J4 axis	60.9 kg·m	88.9 kg·m	141.1 kg·m
	J5 axis	60.9 kg·m	88.9 kg·m	141.1 kg·m
	J6 axis	30.2 kg·m	45.0 kg·m	79.0 kg·m
Position repeatability *3		±0.2 mm		±0.3 mm
Ambient temperature		0 ~ 45 °C		
Robot type		Floor mount		
Robot mass		1,170 kg		1,210 kg

1[rad] = 180/π [°], 1[N·m] = 1/9.8[kgf·m]

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*2: The Allowable moment of inertia of a wrist changes with load conditions of a wrist.

*3: This value conforms to "JIS B 8432".

Robot model: 【Presto ST133TF-01】【Presto ST166TF-01】【Presto ST210TF-01】

Item		Specifications		
Robot model		Presto ST133TF-01	Presto ST166TF-01	Presto ST210TF-01
Construction		Articulated		
Number of axis		6		
Drive system		AC servo motor		
Max. working envelope	J1 axis	±3.14 rad		
	J2 axis	+2.09 ~ -1.13 rad		
	J3 axis	+3.67 ~ -1.85 rad		
	J4 axis	±6.28 rad		
	J5 axis	±2.36 rad	±2.27 rad	
	J6 axis	±6.28 rad		
Max. speed	J1 axis	2.27 rad/s	1.92 rad/s	1.75 rad/s
	J2 axis	2.27 rad/s	1.92 rad/s	1.57 rad/s
	J3 axis	2.27 rad/s	1.92 rad/s	1.66 rad/s
	J4 axis	4.01 rad/s	2.97 rad/s	2.27 rad/s
	J5 axis	4.01 rad/s	2.97 rad/s	2.27 rad/s
	J6 axis	5.32 rad/s	4.54 rad/s	3.49 rad/s
Max. pay load	Wrist	133 kg	166 kg	210 kg
	Forearm *1	45 kg		
Allowable static load torque	J4 axis	745 N·m	951 N·m	1,337 N·m
	J5 axis	745 N·m	951 N·m	1,337 N·m
	J6 axis	411N·m	490 N·m	720 N·m
Allowable moment of inertia *2	J4 axis	60.9 kg·m	88.9 kg·m	141.1 kg·m
	J5 axis	60.9 kg·m	88.9 kg·m	141.1 kg·m
	J6 axis	30.2 kg·m	45.0 kg·m	79.0 kg·m
Position repeatability *3		±0.2 mm		±0.3 mm
Ambient temperature		0 ~ 45 °C		
Robot type		Shelf mount		
Robot mass		1,230 kg		1,270 kg

1[rad] = 180/π [°], 1[N·m] = 1/9.8[kgf·m]

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*3: This value conforms to "JIS B 8432".

Robot model: 【Presto ST133TF-01A】【Presto ST166TF-01A】【Presto ST210TF-01A】

Item		Specifications		
Robot model		Presto ST133TF-01A	Presto ST166TF-01A	Presto ST210TF-01A
Construction		Articulated		
Number of axis		6		
Drive system		AC servo motor		
Max. working envelope	J1 axis	±3.14 rad		
	J2 axis	+2.09 ~ -1.13 rad		
	J3 axis	+3.67 ~ -1.85 rad		
	J4 axis	±3.67 rad		
	J5 axis	±2.09 rad		
	J6 axis	±3.58 rad		
Max. speed	J1 axis	2.27 rad/s	1.92 rad/s	1.75 rad/s
	J2 axis	2.27 rad/s	1.92 rad/s	1.57 rad/s
	J3 axis	2.27 rad/s	1.92 rad/s	1.66 rad/s
	J4 axis	4.01 rad/s	2.97 rad/s	2.27 rad/s
	J5 axis	4.01 rad/s	2.97 rad/s	2.27 rad/s
	J6 axis	5.32 rad/s	4.54 rad/s	3.49 rad/s
Max. pay load	Wrist	133 kg	166 kg	210 kg
	Forearm *1	15 kg		
Allowable static load torque	J4 axis	745 N·m	951 N·m	1,337 N·m
	J5 axis	745 N·m	951 N·m	1,337 N·m
	J6 axis	411 N·m	490 N·m	720 N·m
Allowable moment of inertia *2	J4 axis	60.9 kg·m	88.9 kg·m	141.1 kg·m
	J5 axis	60.9 kg·m	88.9 kg·m	141.1 kg·m
	J6 axis	30.2 kg·m	45.0 kg·m	79.0 kg·m
Position repeatability *3		±0.2 mm		±0.3 mm
Ambient temperature		0 ~ 45 °C		
Robot type		Shelf mount		
Robot mass		1,330 kg		1,370 kg

1[rad] = 180/π [°], 1[N·m] = 1/9.8[kgf·m]

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*2: The Allowable moment of inertia of a wrist changes with load conditions of a wrist.

*3: This value conforms to "JIS B 8432".

4. Robot dimensions and working envelope

Robot model: 【Presto ST133F-01】【Presto ST166F-01】

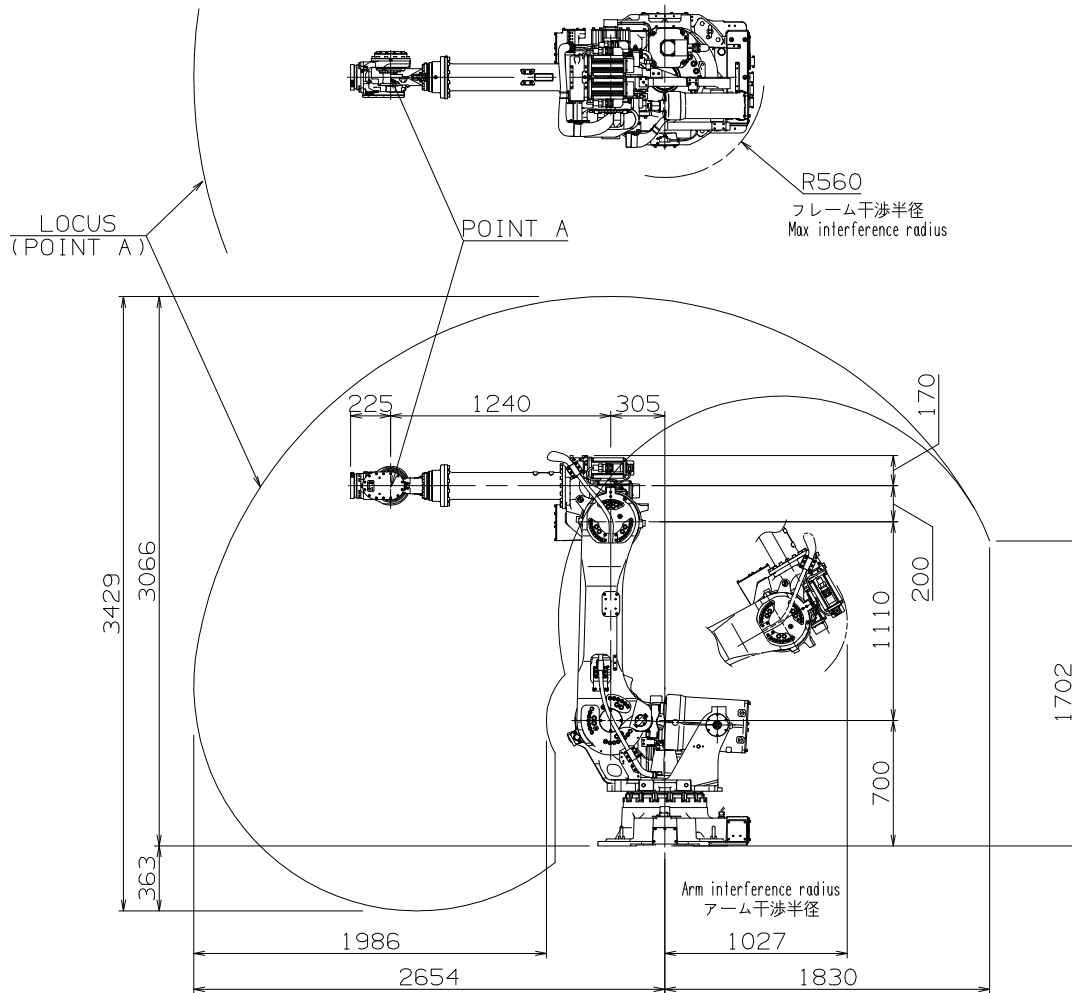


Fig. 4.1 Robot dimensions and working envelope

Robot model: 【Presto ST210F-01】

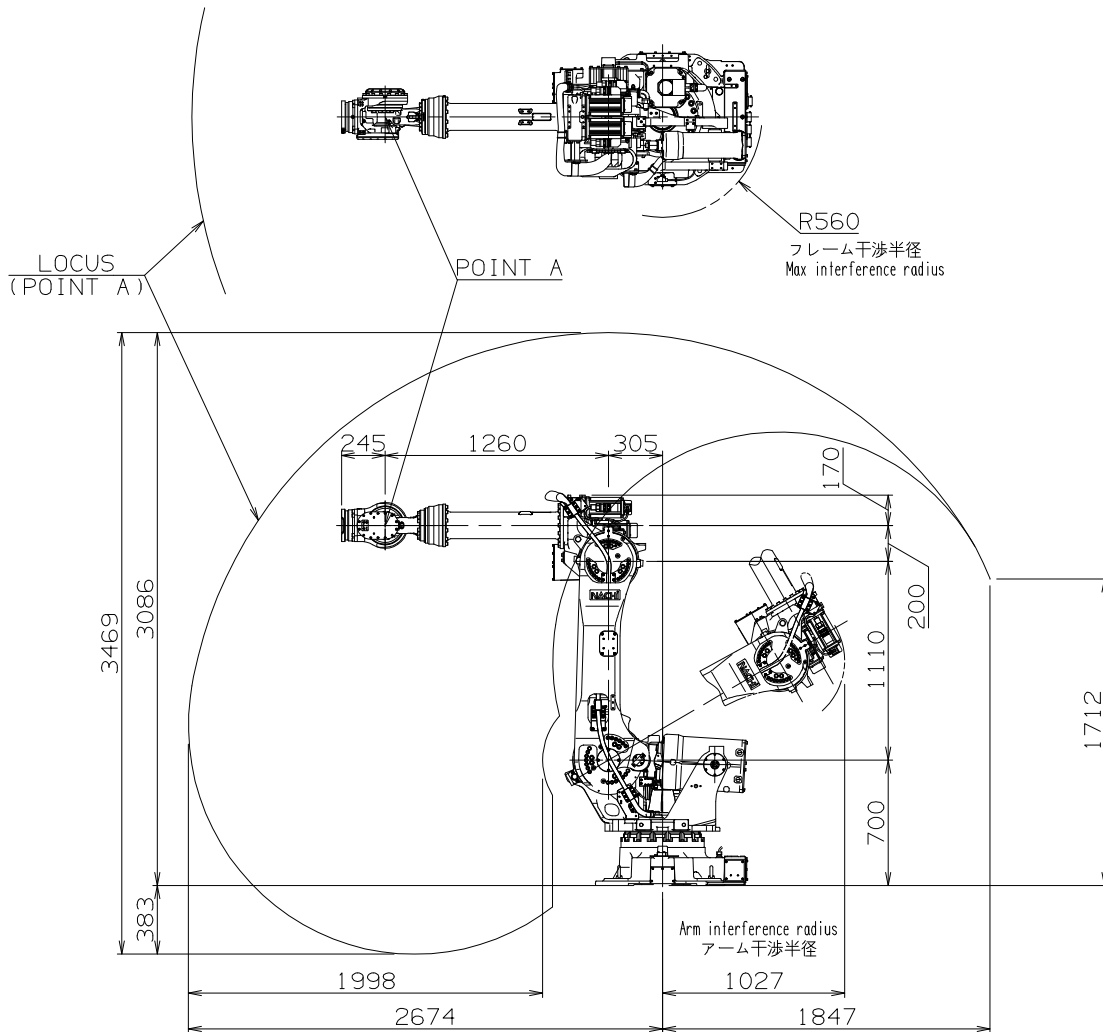


Fig. 4.2 Robot dimensions and working envelope

Robot model: 【Presto ST133F-01A】【Presto ST166F-01A】

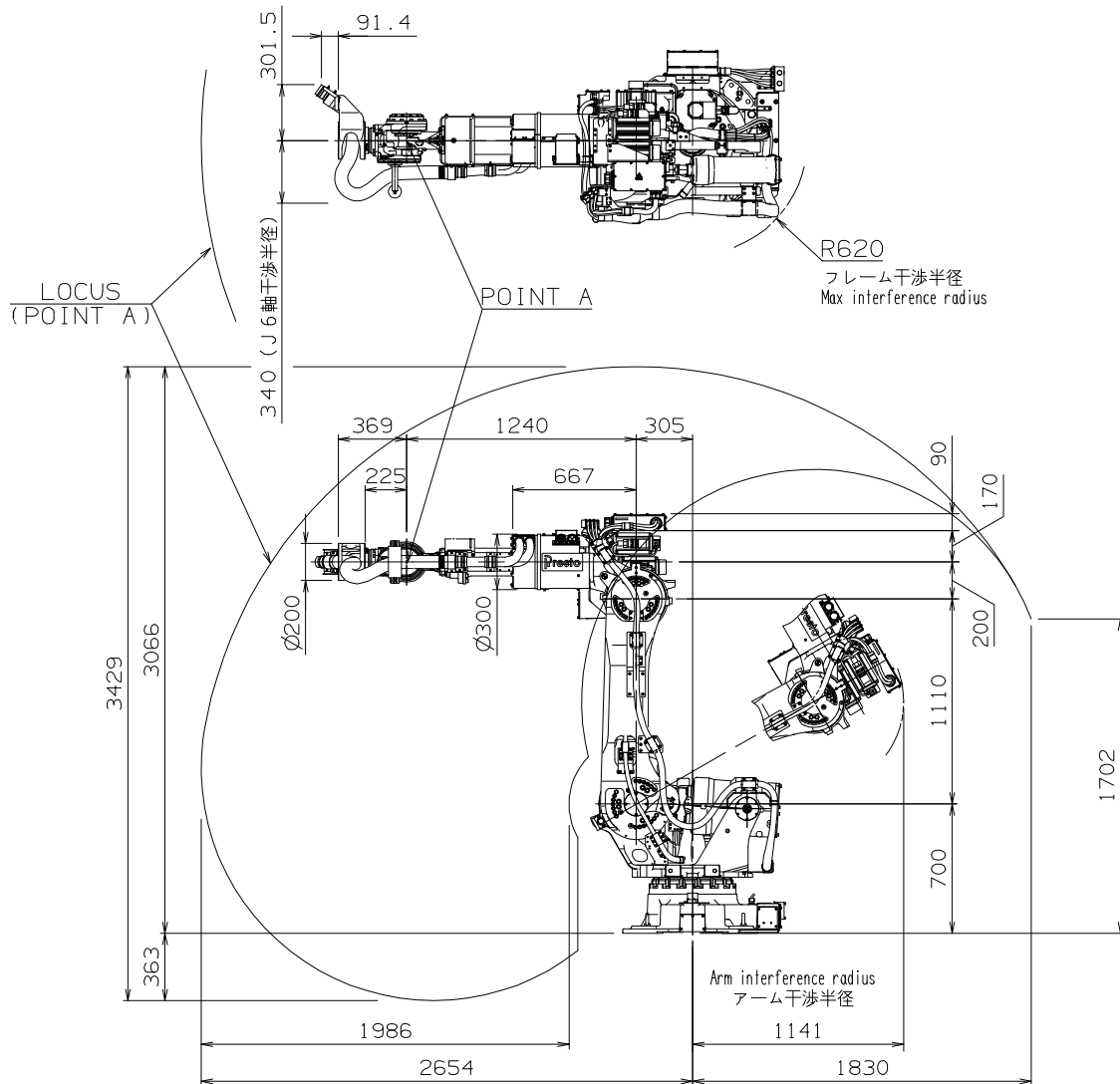


Fig. 4.3 Robot dimensions and working envelope

Robot model: 【Presto ST210F-01A】

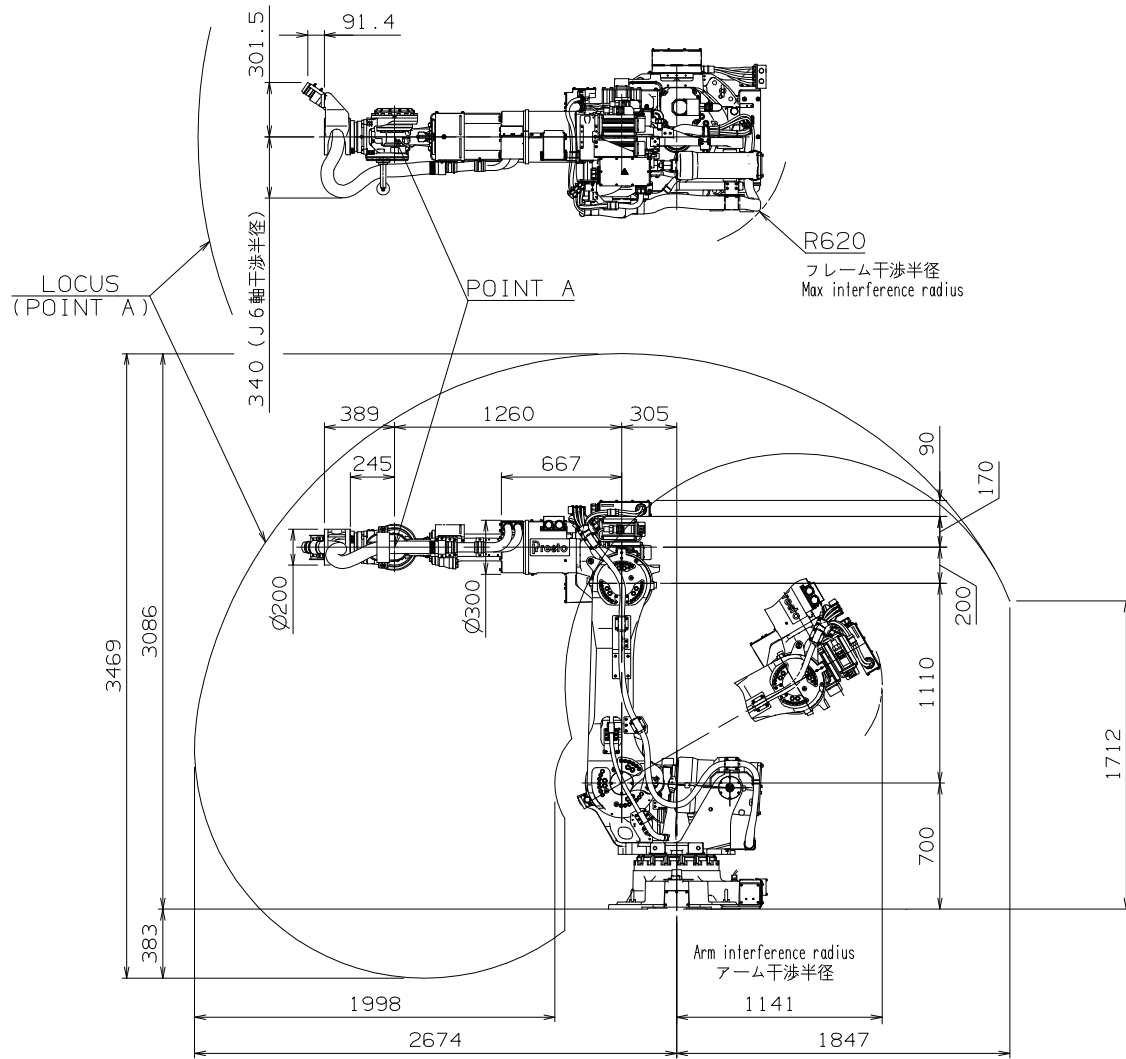


Fig. 4.4 Robot dimensions and working envelope

Robot model: 【Presto ST133TF-01】【Presto ST166TF-01】

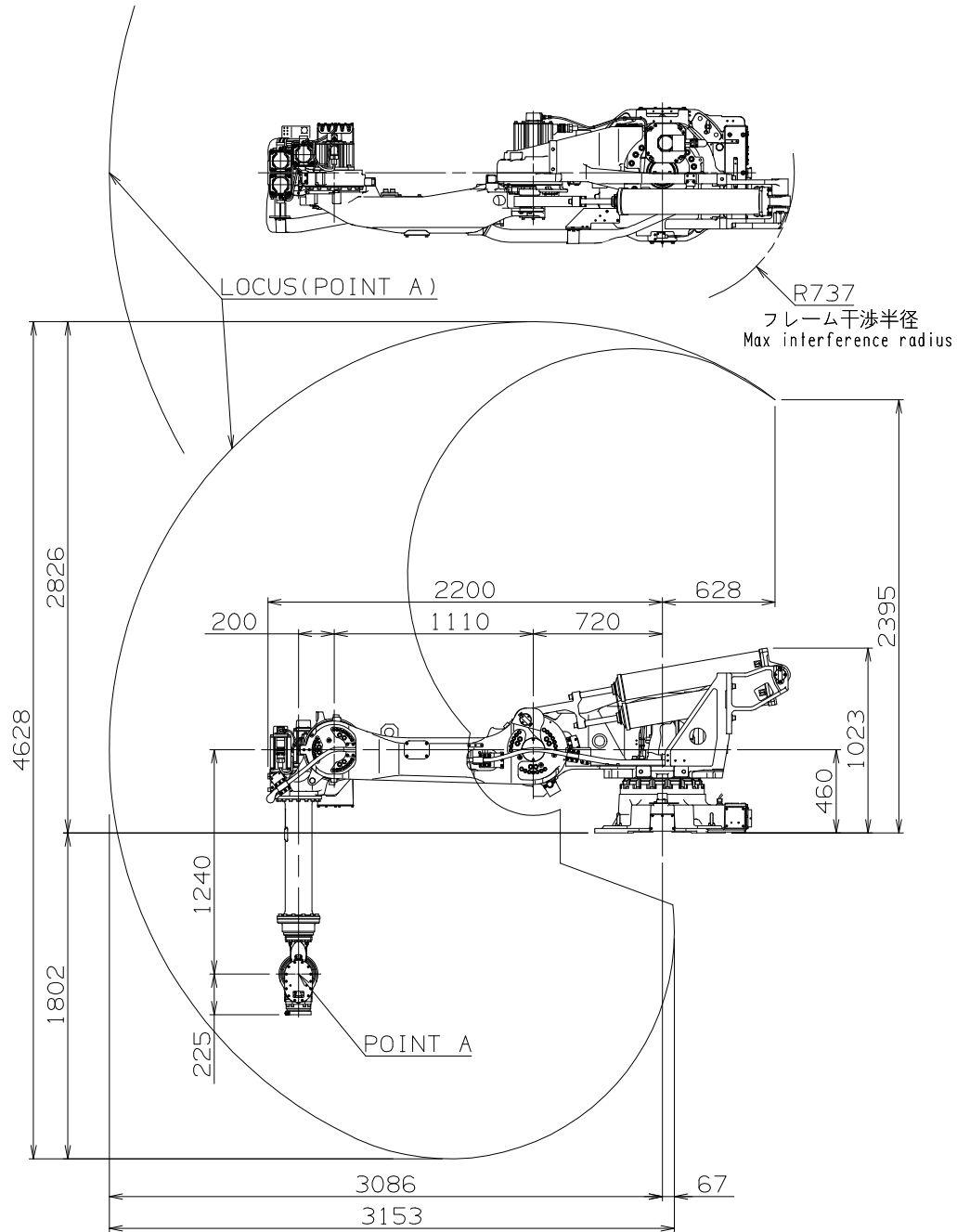


Fig. 4.5 Robot dimensions and working envelope

Robot model: 【Presto ST210TF-01】

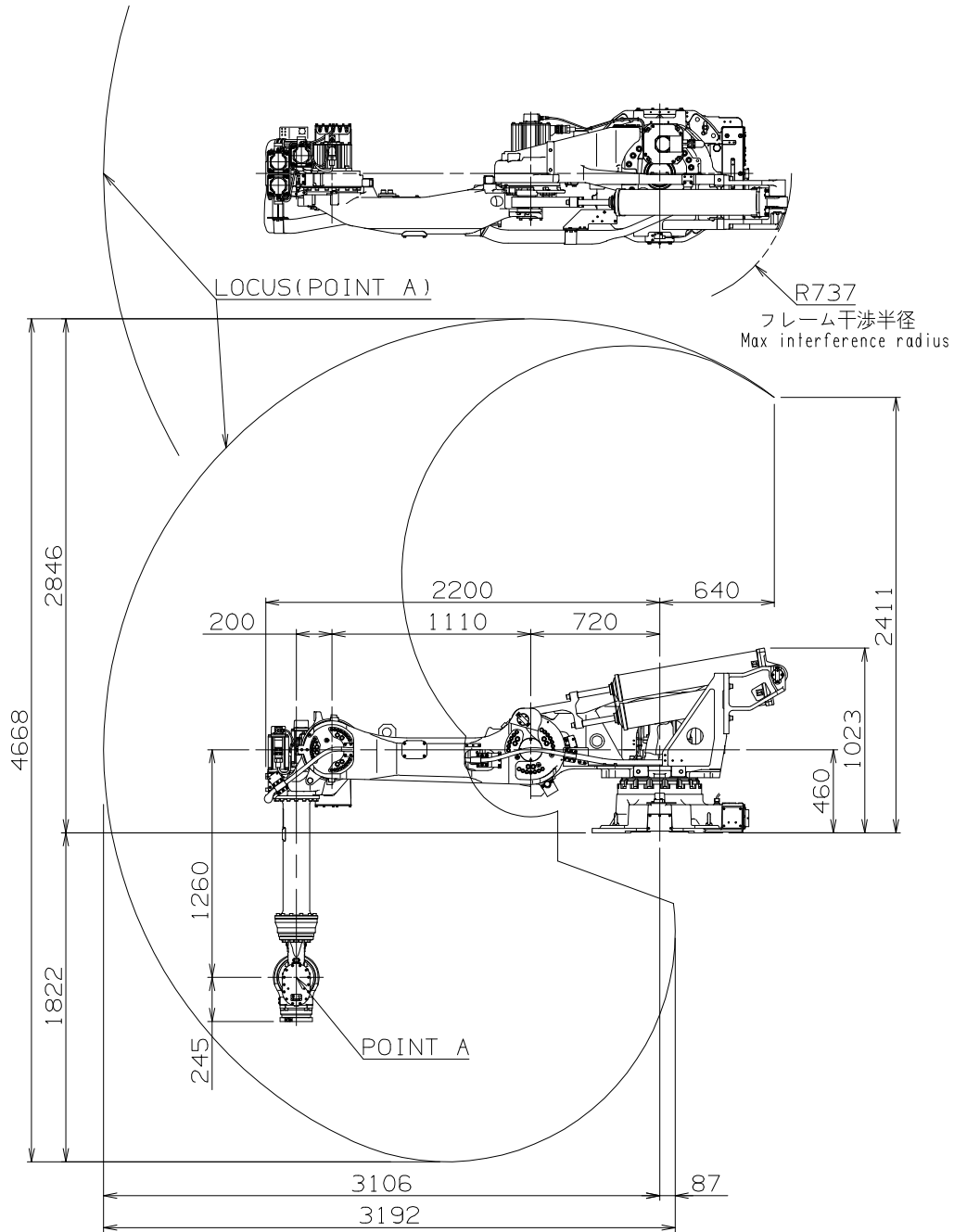


Fig. 4.6 Robot dimensions and working envelope

Robot model: 【Presto ST133TF-01A】【Presto ST166TF-01A】

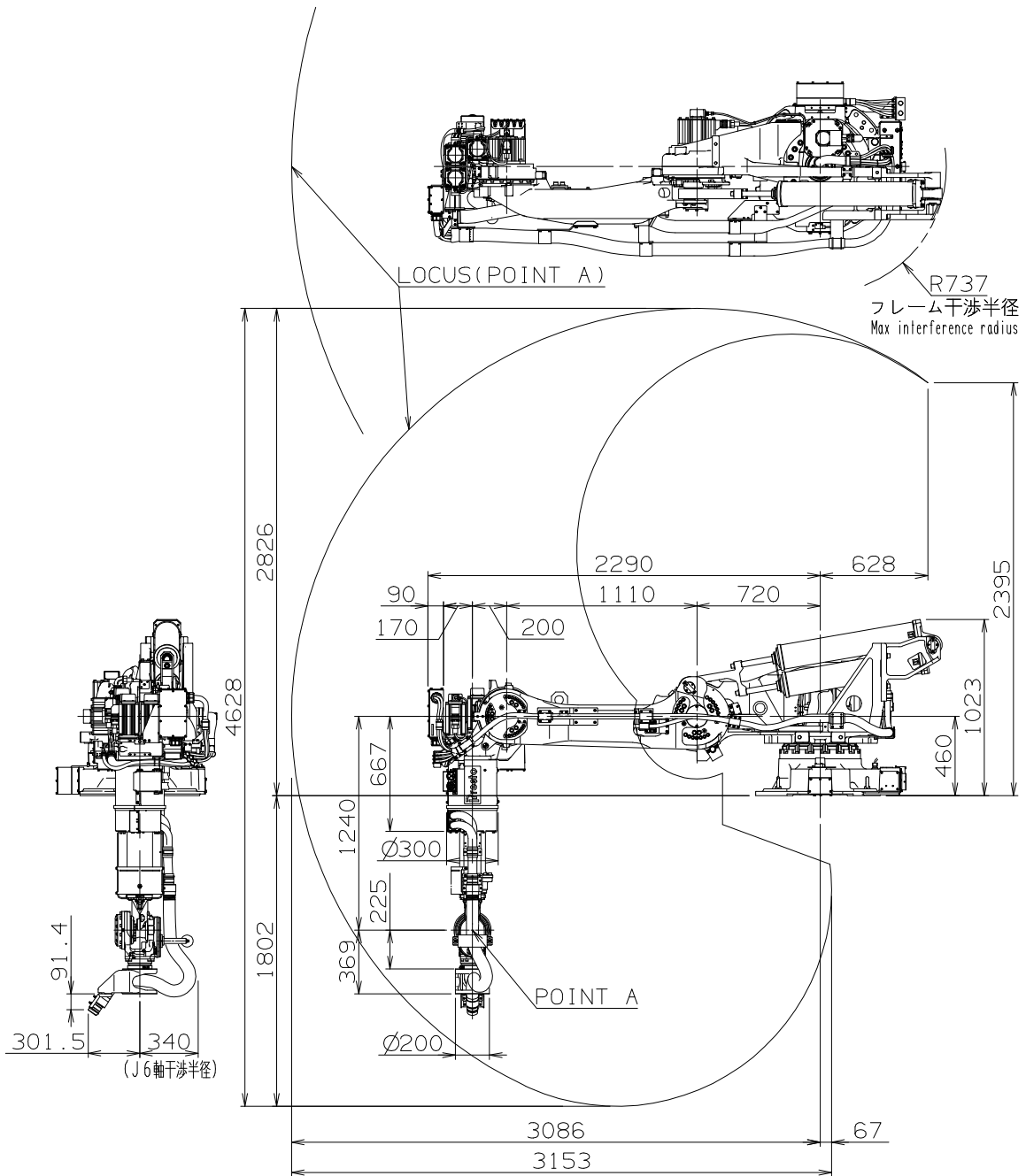


Fig. 4.7 Robot dimensions and working envelope

Robot model: 【Presto ST210TF-01A】

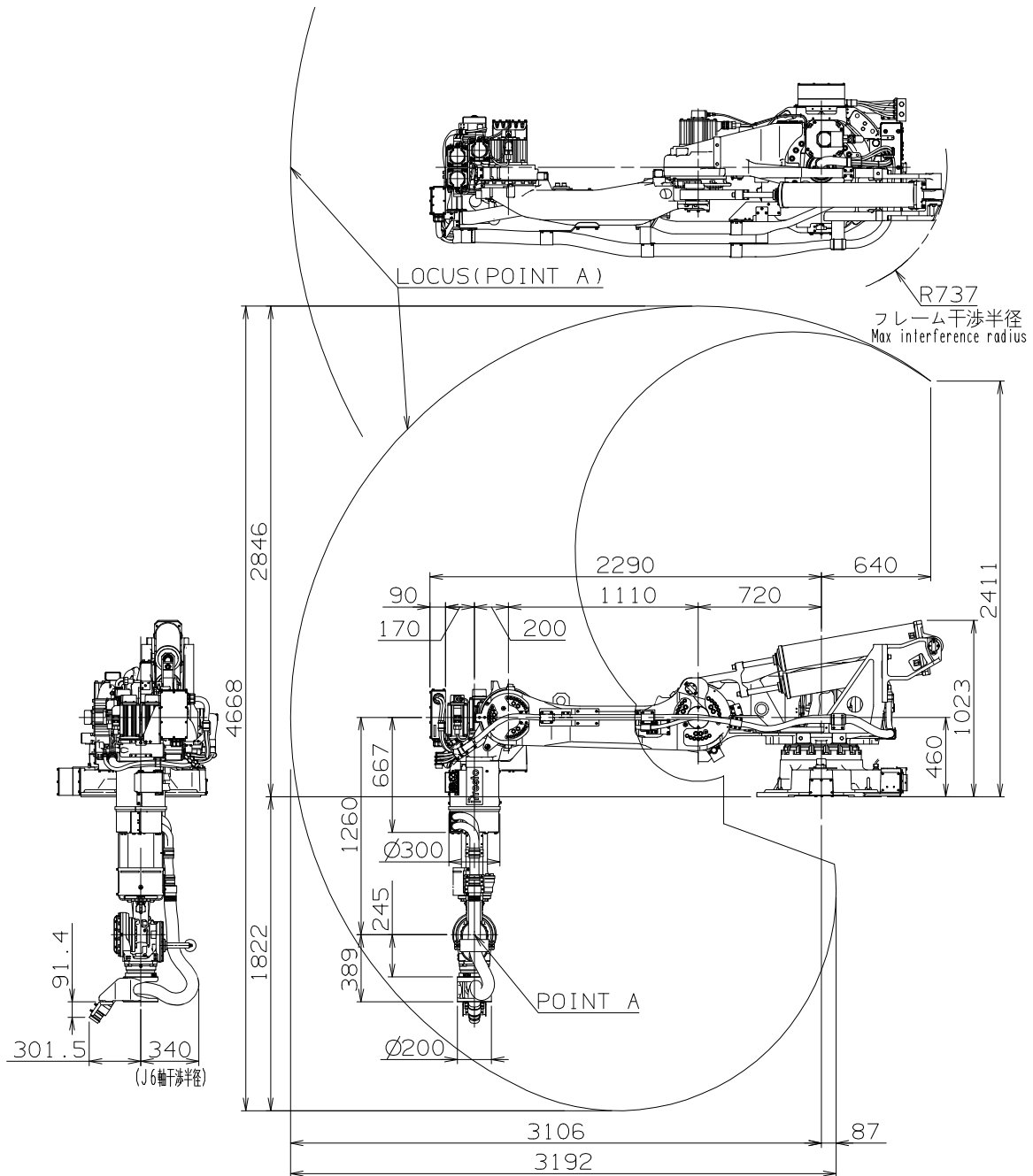


Fig. 4.8 Robot dimensions and working envelope

5. Detail of tool mounting plate

For the end effector fixing bolts, use the mounting P.C.D. shown in Fig. 5.1~Fig. 5.4.
Besides the mounting P.C.D., different P.C.D. (option) is available. For details, contact our service division.

Caution!	Be sure to screw the M10 end effector fixing bolts in the wrist not deeper than the screw depth in the mounting face. Screwing the bolts deeper than the screw depth may damage the wrist.
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Robot model: 【Presto ST133F-01】【Presto ST133TF-01】【Presto ST166F-01】【Presto ST166TF-01】

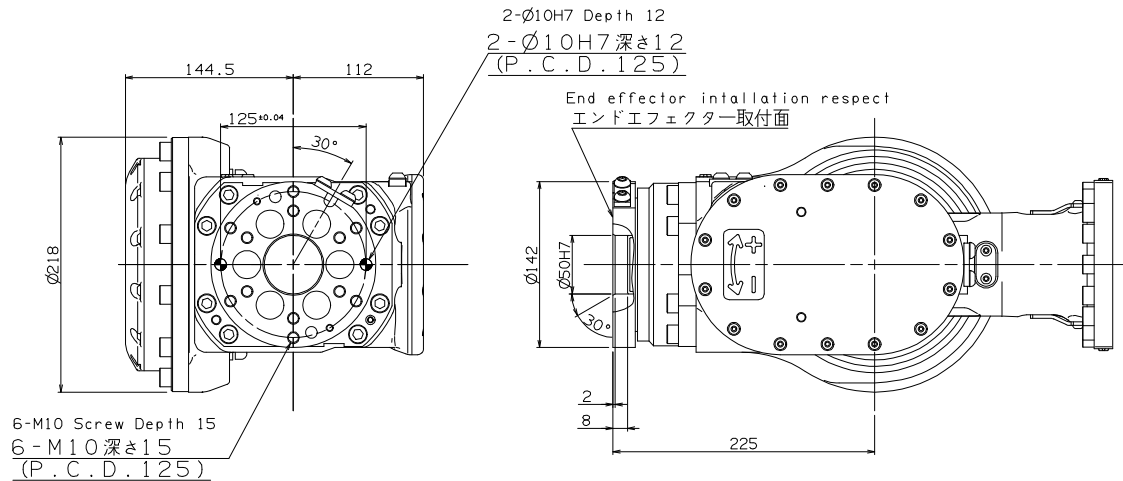


Fig. 5.1 Details of end effector mounting section

Robot model: 【Presto ST210F-01】【Presto ST210TF-01】

Caution!	Use the mounting P.C.D.160 when you install the load of 166 kg or more.
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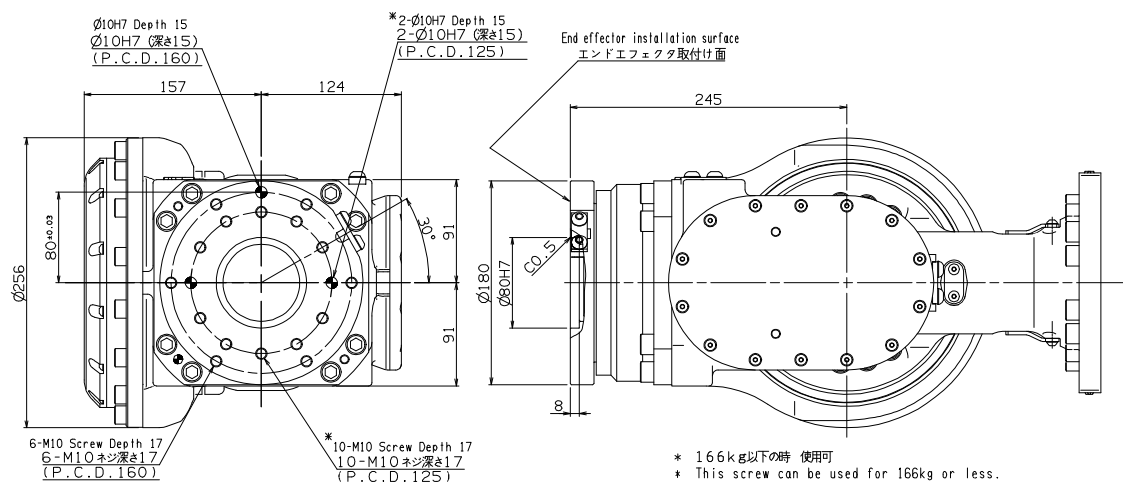


Fig. 5.2 Details of end effector mounting section

Caution	Be sure to screw the M10 end effector fixing bolts in the wrist not deeper than the screw depth in the mounting face. Screwing the bolts deeper than the screw depth may damage the wrist.
Caution	Use the mounting P.C.D.125 or 160 when you install the load of 100 kg or more. (Only when the customer doesn't consider strength of the bolt.)

Robot model: **【Presto ST133F-01A】【Presto ST133TF-01A】**
【Presto ST166F-01A】【Presto ST166TF-01A】

- * 166kg以下の時 使用可 (P.C.D.125)
- * This screw can be used for 166kg or less.
- # 100kg以下の時 使用可 (P.C.D.92)
- # This screw can be used for 100kg or less.

//// 部はA-Trac4スプリングの動作領域です。
 このエリアへのエンドエフェクタの進入は避けてください。
 A-Trac4スプリングとの干渉により、エンドエフェクタが
 破損する恐れがあります。
 またA-Trac4スプリングへの干渉や引っ掛りはA-Trac4
 スプリング内ケーブルの損傷につながりますのでご注意願います。
 ※※ 部はツール取付け可能領域です。

The shaded area is the operating range of the A-Trac4 spring. Ensure that the end effector does not enter into this area. Otherwise, it may be damaged as a result of interference with the A-Trac4 spring. Also bear in mind that if the end effector interferes with or catches on the A-Trac4 spring, the cables inside the A-Trac4 spring may be damaged.
 The cross-hatched area is the area in which tools can be mounted.

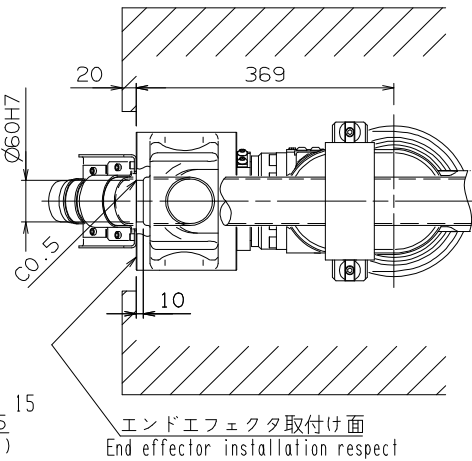
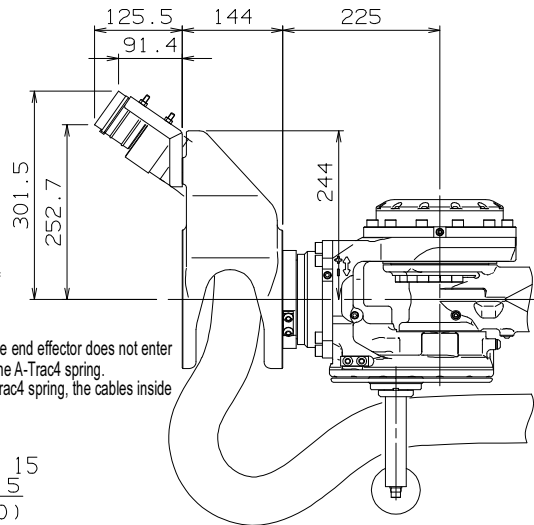
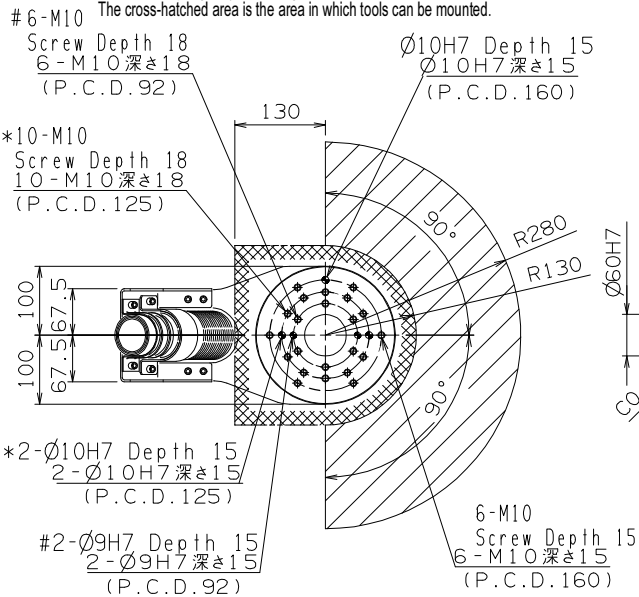


Fig. 5.3 Details of end effector mounting section

Robot model: 【Presto ST210F-01A】【Presto ST210TF-01A】

- \$ 210kg以下の時 使用可 (P.C.D.160)
- \$ This screw can be used for 210kg or less.
- * 166kg以下の時 使用可 (P.C.D.125)
- * This screw can be used for 166kg or less.
- # 100kg以下の時 使用可 (P.C.D.92)
- # This screw can be used for 100kg or less.

///部はA-Trac4スプリングの動作領域です。
 このエリアへのエンドエフェクタの進入は避けてください。
 A-Trac4スプリングとの干渉により、エンドエフェクタが
 破損する恐れがあります。
 またA-Trac4スプリングへの干渉や引っ掛りはA-Trac4
 スプリング内ケーブルの損傷につながりますのでご注意願います。

⊗部はツール取付け可能領域です。

The shaded area is the operating range of the A-Trac4 spring. Ensure that the end effector does not enter into this area. Otherwise, it may be damaged as a result of interference with the A-Trac4 spring. Also bear in mind that if the end effector interferes with or catches on the A-Trac4 spring, the cables inside the A-Trac4 spring may be damaged.

The cross-hatched area is the area in which tools can be mounted.

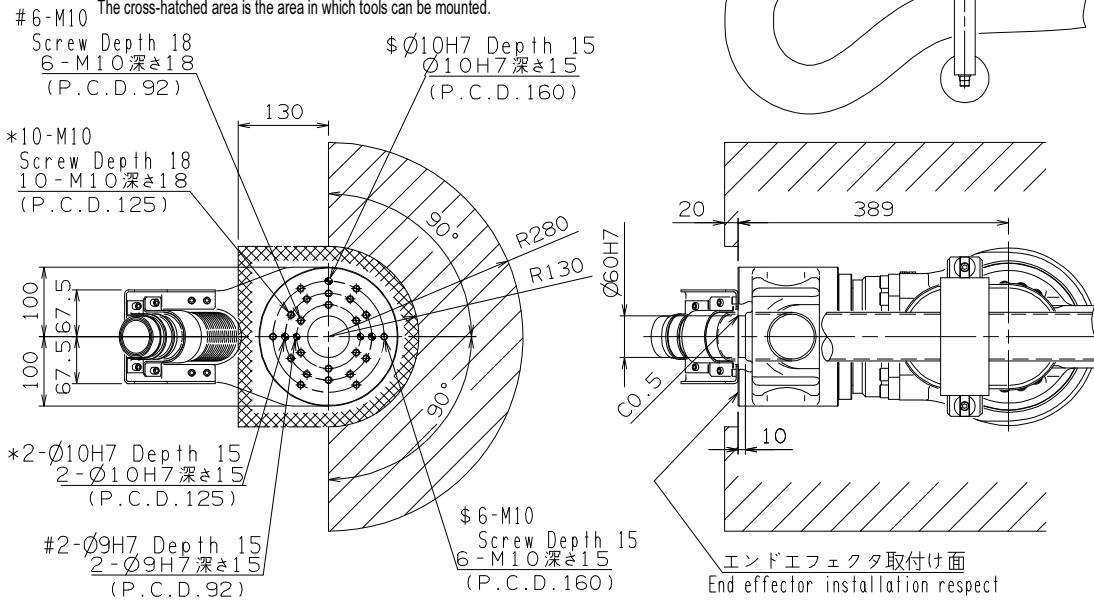


Fig. 5.4 Details of end effector mounting section