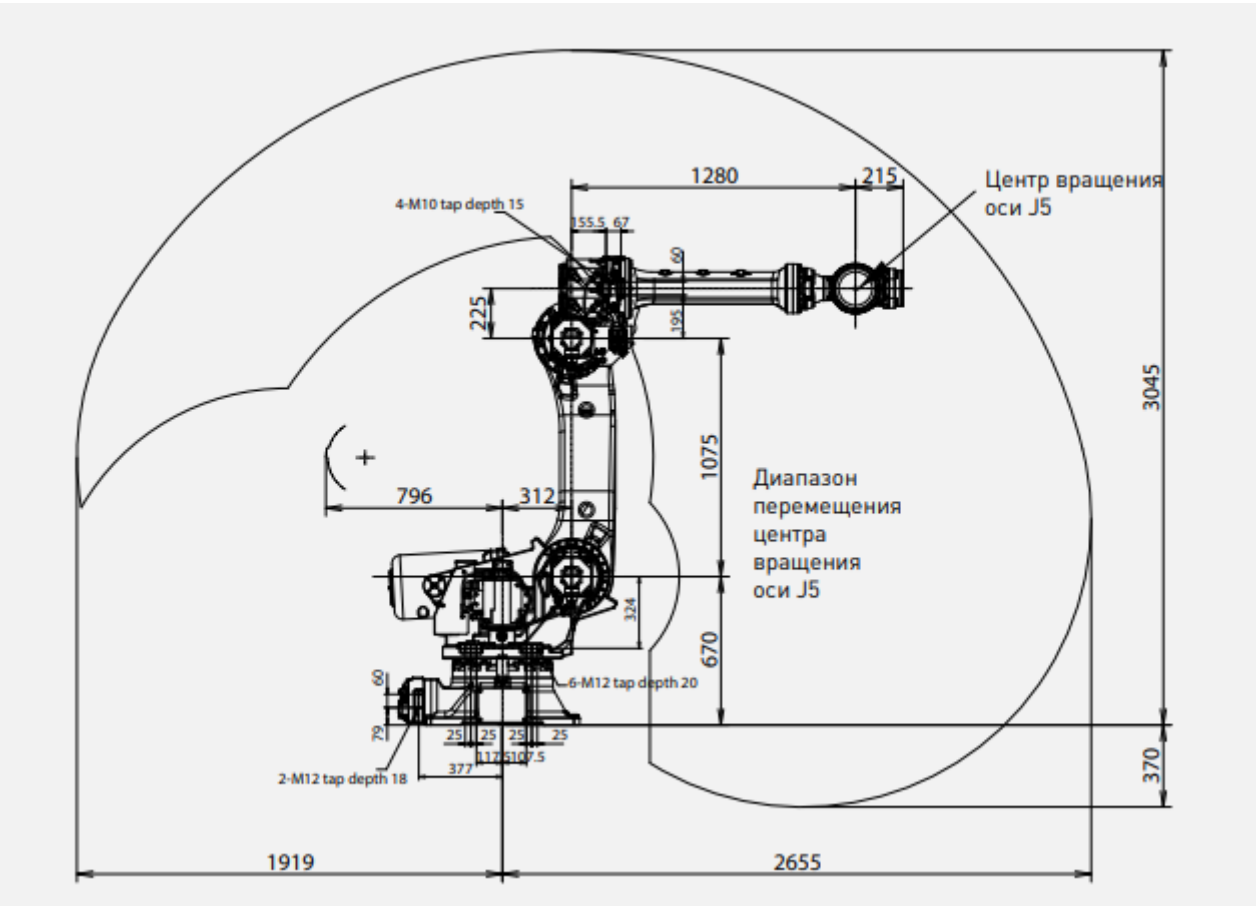# Homework 1

Fundamentals of Robotics

Done by `Egor Sorokin`

`FANUC R-2000iC/165F` was chosen. This is industrial robot with 6 DoF.

This is robots parameters.

And joint's possible rotation's degrees

Угол поворота (°)					
J1	J2	J3	J4	J5	J6
370	136	312	720	250	720

Formula for the DK of this robot is following

$$\mathbf{T}_z(d_0) \cdot \left\{ \mathbf{R}_z(q_1) \cdot \mathbf{T}_x(d_1) \cdot \mathbf{R}_y(q_2) \cdot \mathbf{T}_x(d_2) \cdot \mathbf{R}_y(q_3) \cdot \mathbf{T}_x(d_3) \cdot \mathbf{T}_z(d_4) \right\} \times$$

$$\times \left\{ \mathbf{R}_x(q_4) \cdot \mathbf{R}_y(q_5) \cdot \mathbf{R}_x(q_6) \right\} \cdot \mathbf{T}_x(d_6)$$