



Legend: H=hand, F=fore-arm, U=upper arm, C=robot column

Figure 1

shows a human arm accessing a position in front of him/her. As you can see the elbow is below the working plane. The elbow can get in the way of working surfaces but the human arm has an additional degree of freedom in the form of shoulder rotation, by which the elbow can be rotated to a horizontal position.

Figure 2

Is a robot arm, here shown at $Z=0$. This is not bench level; the bench would be level with the bottom of the column, so the bench always has a negative Z coordinate. The elbow is above the working plane which is important especially for working at bench level. Most tasks would be with negative Z . The hand is shown at 0 degrees.

Figure 3

The coordinates in this example are $Y=100.0\text{mm}$, $Z=400.0\text{mm}$, hand is -90 deg. As you see the elbow protrudes backwards. If the hand is trying to access the side of an object above the robot then the forearm could collide with the object.

Figure 4

The coordinates in this example are also $Y=100.0\text{mm}$, $Z=400.0\text{mm}$, hand is -90 deg. However the elbow is in the opposite direction, in front of the robot.

To invoke this mode enter

INV C1SET

Then send the robot to the required coordinates.

To cancel this mode enter

INV C0SET (the 0 is a zero not letter O)

Then enter the next coordinates.

To use the same coordinates but just change the mode enter

0 0 0 MOVE