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The instrument used to start off this robot building project was an alto saxophone made by Ancienne Maison Muller, Louis Cousin successeurs, in Lyon, France. We presume it dates from the early interbellum, as it must have been made after the death of the late Louis Cousin. Certainly not older than 1890. We started by thoroughly cleaning and restoring the instrument and bringing it back to full playing conditions. As it is a pretty old instrument, it misses some features in the mechanism typical for more modern instruments, such as automatic octave keying, palm keys and a few trill keys. An advantage as it turns out, for an instrument to be automated. Following the recipe applied in most of our wind-instrument robots so far, we decided to drive the saxophone using a membrane compression driver followed by an acoustic impedance convertor. This convertor with its typical double coned design with a capillary connecting both cones, had to be calculated anew, as it had to fit the drive requirements for an alto saxophone. Our design is an attempt to match as closely as possible the characteristics of a normal mouthpiece with a reed for such an instrument. For the implementation of the valves, we could build further on the experience we had built up during the realisation of our <Klar> robot. In fact, the case of a saxophone is even a bit easier as there are less valves that have to be operated. The two octave valves appeared to be dispensable, as with our driver mechanism the octaves actually even sound better without activation of these keys. So the double octave valve on the crook as well as the lower thumb operated valve could be left closed all the time. This left us at first sight with no more than 16 valves to be automated. However the native mechanism on a saxophone tends to be rather noisy. Therefore we decided to replace as many of the valves, pads and mechanisms as possible with solenoid driven pads acting directly on the tone holes. Therefore we unsoldered the posts holding the mechanism for many valves. The mechanism on the crook for the double octave, although not required, was left in place as well as valve 8, as we found no place for a directly driven solenoid pad here. The 'automatic' valves thus also required solenoids, bringing the total up to 18 valves.

An extra feature implemented in this robot is gesture: this saxophone can move left-right as well as front-back and thus is capable of mimicing the typical gestures a human performer might make when playing the instrument. This appears to be more than just a visual feature, as gesture in human playing is an essential ingredient of live performance and allows the audience to better capture the embodied meaning of the music.