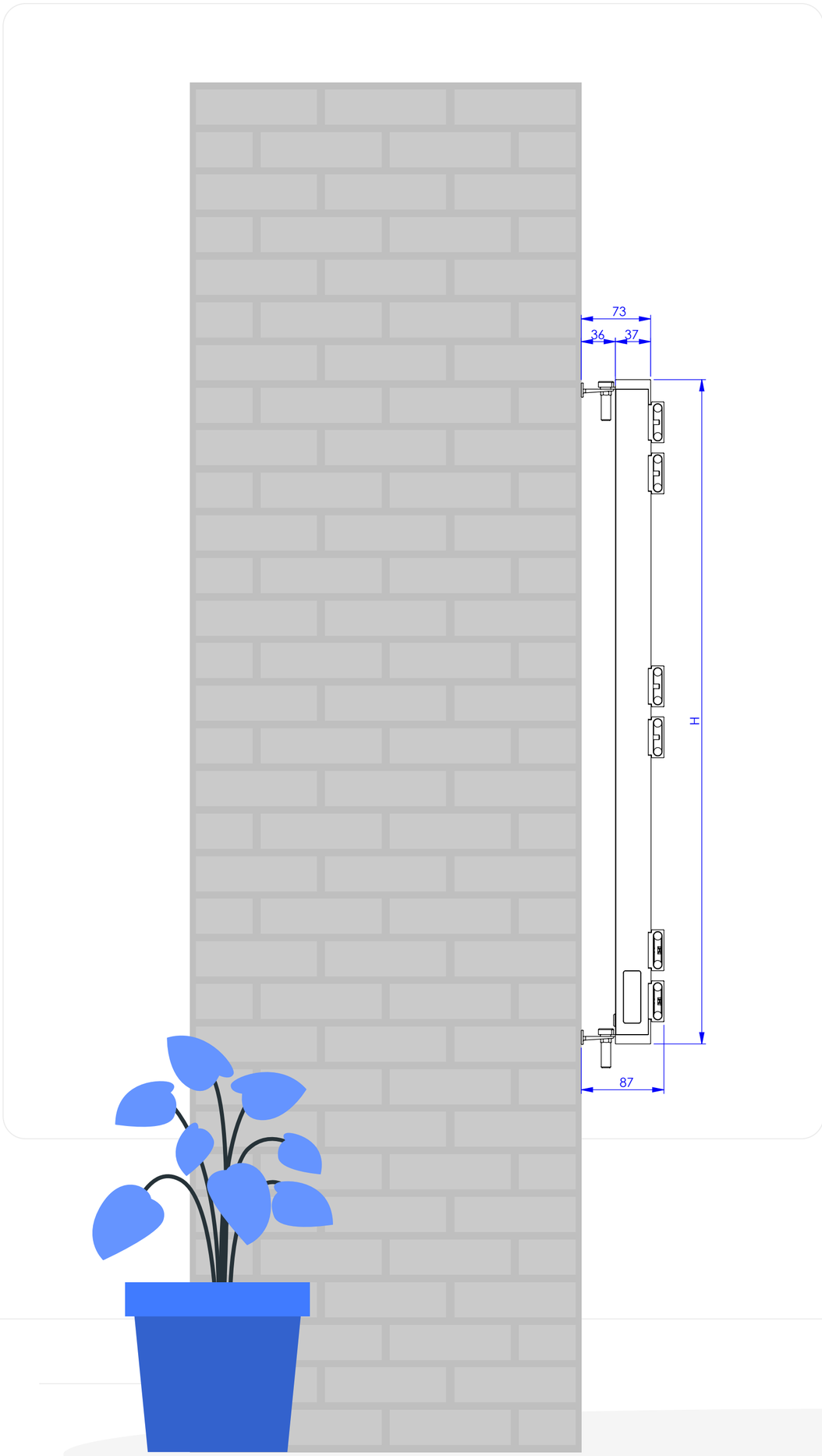QA-GA-ASM