

IMI

Hydronic Engineering

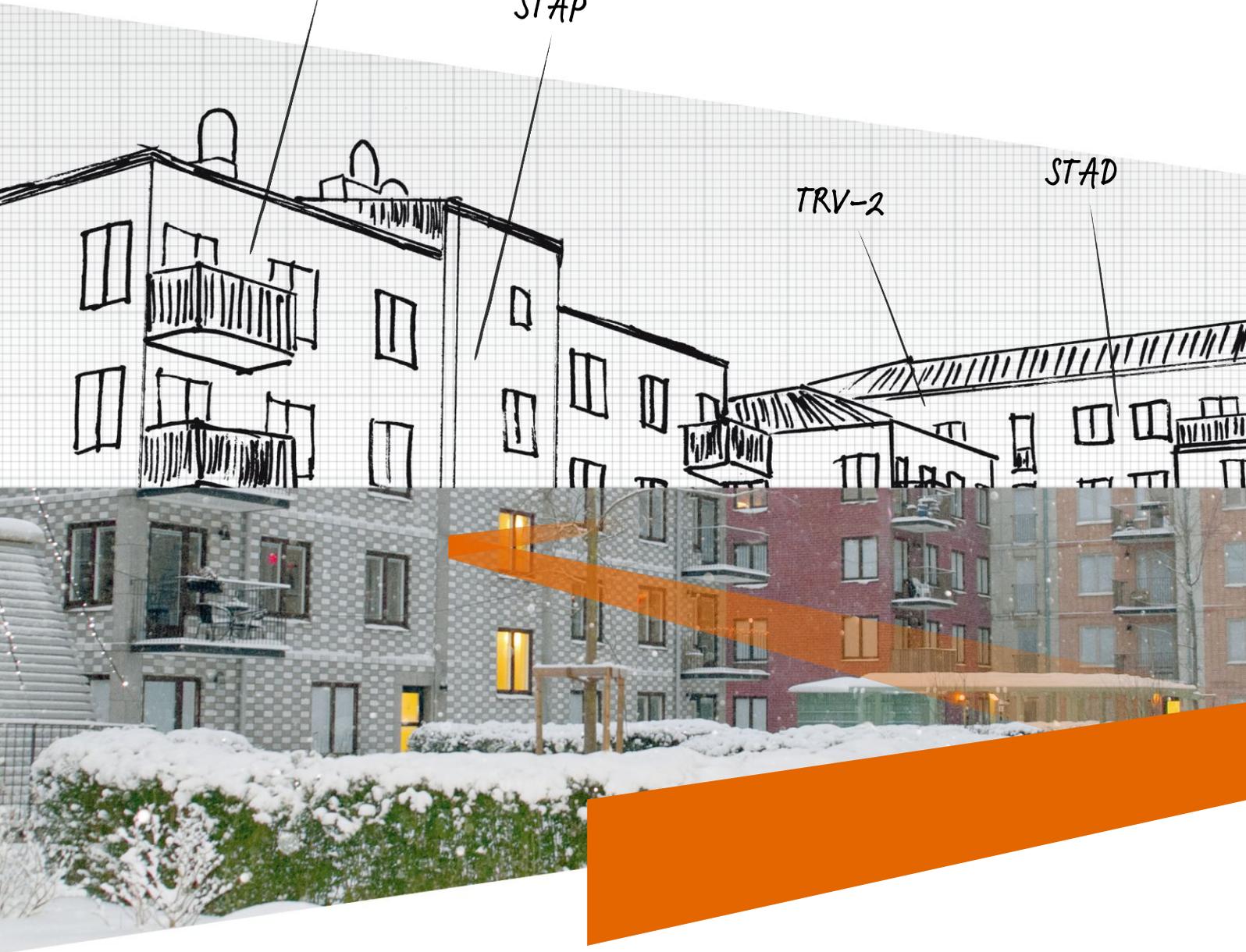
Engineering
GREAT solutions

TRV300

STAP

TRV-2

STAD



**Greater comfort
with silent heating**



Case Study

FACTS

Project type:	New building, rental properties
Total surface area:	32,900 m ²
Customer:	Anders Bodin Fastigheter AB
Consultant:	Incoord AB
Location:	Kv Loka Brunn, Dalagatan, Stockholm
Investment:	Approx. SEK 150,000
Products:	Balancing and regulation: STAD/STAP Room temperature control: TRV-2 and TRV 300

System design with stable differential pressure and silent radiator valves to achieve sound class A in the Kvarteret LOKA Brunn development in Stockholm. IMI Hydronic Engineering radiator valves were selected on the basis of independently verified sound tests to ensure that the requirements of sound class A were met.

Anders Bodin Fastigheter AB is a family company that has been building and managing properties in Stockholm for 30 years. The company is now an estate company, which means it owns and manages properties. Long-term sustainability is the goal for the properties under the company's management. Environmental considerations are an important part of the design process, and a great deal of effort is put into choosing sustainable materials and technical solutions that are economical to run. "Our tenants' well-being is crucial to us, so we are very demanding in terms of energy efficiency, but also noise levels, transport links and sustainable materials," explains Sören Haraldsson of Anders Bodin Fastigheter.

Something that has a big impact on tenants' well-being is the level of noise. Anders Bodin Fastigheter was the first developer in the country to build sound class B properties. As plans progressed for the LOKA Brunn development on Dalagatan in Stockholm in 2008, it was decided to be the first property in Stockholm to be fully compliant with sound class A, 22 dB. Loka Brunn has 153 apartments with 2-5 rooms, retail premises and a car park.

The challenge

To achieve the 22 dB standard, all types of sound must meet the requirements of sound class A, for example sound from outside and from the HVAC systems. Ångpanneföreningen Akustik (formerly Ingmanssons) was appointed general sound consultant to coordinate activities and to ensure that the sound requirement was met in all parts of the project.

They knew from experience that HVAC installations are critical points. Noise from the heating system is a common complaint among tenants. INCOORD AB, a consultant in HVAC, electricity and energy, was asked to design a HVAC system that could not only provide a comfortable indoor climate with the lowest possible energy use, but was also compliant with sound class A. Hans Göransson, consultant at INCOORD responsible for the HVAC system in the Dalagatan development, says that "the biggest challenge in this property was to achieve compliance with sound class A, so a lot of work had to be put into system design and the choice of products."

The solution

Noise from HVAC systems usually comes from the radiator valves, either because the differential pressure over the valves is too high or because of the valve design. It is also important to ensure that the system water is properly degassed.

To meet the sound standards, the system must be designed to keep the differential pressure as low as possible and to use compliant radiator valves. IMI Hydronic Engineering was asked to suggest solutions and products. "Most importantly, the pressure drop in the pipes had to be kept as low as possible, and this is why we selected a slightly larger pipe diameter", says Hans Göransson.

"To stabilise the differential pressure and to minimise the risk of noise, a STAP differential pressure regulator was installed on each riser. The IMI Hydronic Engineering TRV-2 radiator valve with stepless presetting was chosen, with the associated TRV 300 thermostat. We chose IMI Hydronic Engineering radiator valves because they met the requirements of sound class A, as verified by tests carried out by an independent testing institute."

Hans Göransson, Incoord AB

The result

The design of the HVAC system and the choice of valve proved to be just right. The system provides a comfortable indoor climate without exceeding 22 dB. The "silent heat" from IMI Hydronic Engineering radiator valves helps to improve indoor comfort and the well-being of tenants.