



Next generation digital load cells

Alfa Laval UltraPure weighing systems





Capacitive digital load cells

Patented technology with unique advantages

The Alfa Laval load cells are based on a patented digital capacitive technology that features a number of advantages compared to other technologies used in transducers for measuring force and weight.

The Alfa Laval load cells are produced in stainless steel and hermetically sealed to IP68 by laser welding. Furthermore, the load cells feature high accuracy, outstanding reliability, simple mechanical and electrical installation, and minimal maintenance for use in tough and demanding industrial applications.

The Alfa Laval weighing systems are available in capacities up to 100 tons with a broad range of instrumentation including weighing terminals and weighing modules featuring EtherNet IP, Modbus TCP/IP, PROFINET, Profibus DP, DeviceNet, RS485, 4–20 mA and 0–10 VDC interfaces. The Alfa Laval load cells and weighing solutions can be supplied in OIML and ATEX certified versions.

The Alfa Laval weighing systems are individually calibrated and tested, for the highest quality on the market.

The Alfa Laval load cells are trusted worldwide

Our customers include leading companies in more than 85 countries worldwide, and the continuous investment in technology, development, quality, and customer support has led to a very high level of customer loyalty.

Next generation digital load cells

- Patented capacitive technology
- Robust digital load cells
- Tolerate up to 1,000% overload
- Easy installation
- Stainless steel (IP68)
- ATEX certified zone 1, 2, 21, 22
- Trusted in over 85 countries worldwide



Process installation examples



Hygienic load cells – high accuracy and reliability

Digital capacitive technology

The choice for any hygienic application

The Alfa Laval digital capacitive technology is based on a non-contacting ceramic sensor mounted inside the load cell body. As the load cell contains no moving parts and the ceramic sensor is not in contact with the load cell body, the load cell tolerates very high overloads, sideloads, torsion and welding voltages.

Simple and hygienic installation

This robust technology allows for a very simple and hygienic mechanical installation of the Alfa Laval load cells without expensive and complicated mounting kits, stay rods or overload protection devices. The simple installation eliminates the need for maintenance and reduces the total cost of ownership.

The true digital weighing solution

The electrical installation of the Alfa Laval digital load cells is pure plug-and-play as the output from the non-contacting sensor is directly converted, compensated and calibrated to RS485 signal by a proprietary ASIC in the load cell. This RS485 signal contains the measuring data and status codes for diagnostics, which is transmitted through the single wire coaxial cable to the weighing instrumentation.

The patented digital technology eliminates drift and inaccuracy found in analog circuits as the complete measurement chain is digital.

Individually calibrated for high accuracy

Every Alfa Laval load cell is individually factory calibrated and compensated to ensure the highest accuracy and quality on the market.

Flexible connectivity

The Alfa Laval proprietary design results in unsurpassed flexibility, high data rates and allows for connection to a wide range of equipment, fieldbus interfaces and outputs (PLCs, PCs, SCADA systems, Weighing Terminals, PROFINET, Profibus DP, EtherNet/IP, Modbus TCP/IP, RS485, 4–20 mA, 0–10 VDC etc.).

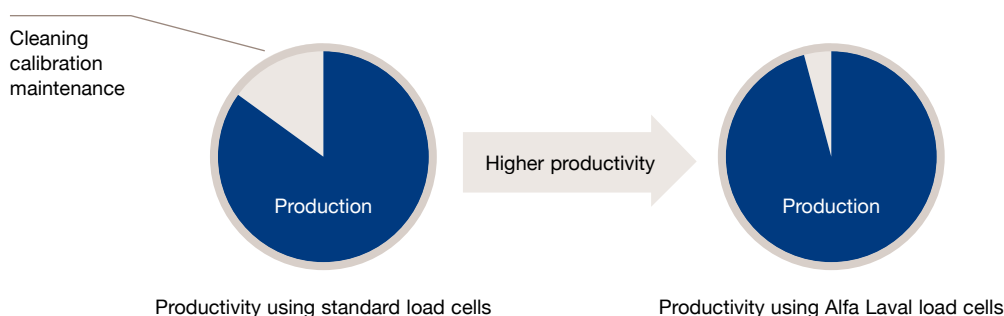
Easy commissioning and service

The pre-calibration of the Alfa Laval load cells and the possibility to monitor the load and status of each individual digital load cell, provides visibility, easy troubleshooting and saves time during commissioning.

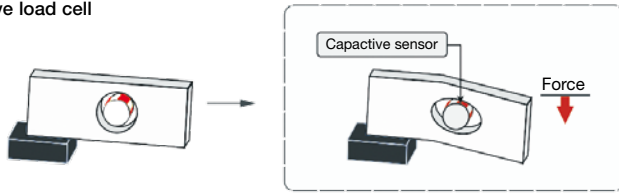
Furthermore, the load cell cables can be mounted on the load cells on-site, if convenient, and the cable length (up to 100 meters) has no influence on the calibration of the Alfa Laval load cells.

Patented and trusted worldwide

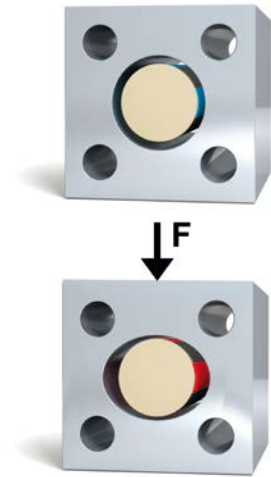
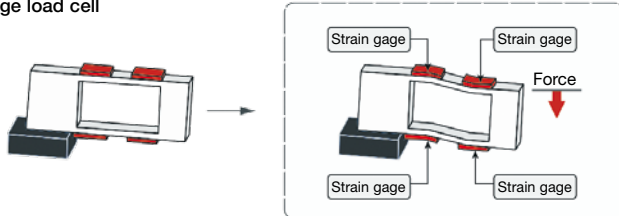
The capacitive technology and mechanical design of the Alfa Laval load cells is patented and trusted by customers in more than 85 countries worldwide.



Capacitive load cell



Strain gage load cell



Capacitive single point load cell



The Alfa Laval digital capacitive technology is based on an accurate and stable ceramic sensor, which is non-contacting and therefore unaffected by overloads, sideloads, torsion and welding voltages.

Alfa Laval hygienic beam load cell



The load cell cable is field replaceable



Top ten reasons

for choosing Alfa Laval weighing solutions

#1

Robust and reliable load cells

All Alfa Laval load cells tolerate very high overloads, sideloads and torsion. The load cells are produced in stainless steel and hermetically sealed to IP68 to ensure superb IP protection.

#2

Simple mechanical installation

Mechanical protection devices are not necessary when installing Alfa Laval digital load cells. This is not only an important cost and maintenance saver, but also allows for a hygienic installation.

#3

Simple electrical installation

The Alfa Laval digital load cells feature true plug-and-play installation as the load cells are pre-calibrated, which eliminates the need for on-site calibration in many applications.

The Alfa Laval digital load cells are equipped with up to 100 meters coaxial cable and the cable length has no influence on the load cell calibration.

#4

Certified quality

The Alfa Laval digital load cells can be supplied in OIML and ATEX certified (zone 1, 2, 21, 22) versions while still offering a very high overload tolerance.

#5

Flexible solutions

A range of Alfa Laval weighing modules are available with a host of fieldbus interfaces (Profibus DP, PROFINET, Ethernet IP, Modbus TCP/IP, 4–20 mA, 0–10 VDC etc.). Also the load cells are available in capacities up to 25 tons.

#6

Fast commissioning

The Alfa Laval load cells are precalibrated, which saves time during commissioning.

#7

Minimizes on-site installation costs for OEM customers

The very high overload tolerance of Alfa Laval load cells allows for in-factory installation of the load cells in OEM equipment, which eliminates the need for expensive and inconvenient transportation protection for the load cells.

#8

Easy diagnostics and service

It is possible to monitor the load and status of each individual Alfa Laval load cell with the integrated load cell diagnostics feature.

The Alfa Laval digital load cells do not require regular maintenance but if maintenance is required, the integrated system will alert users, providing fast and easy troubleshooting.

#9

High quality standards

All Alfa Laval load cells are developed, manufactured and individually calibrated in Denmark to ensure that the load cells meet the highest quality standards on the market.

#10

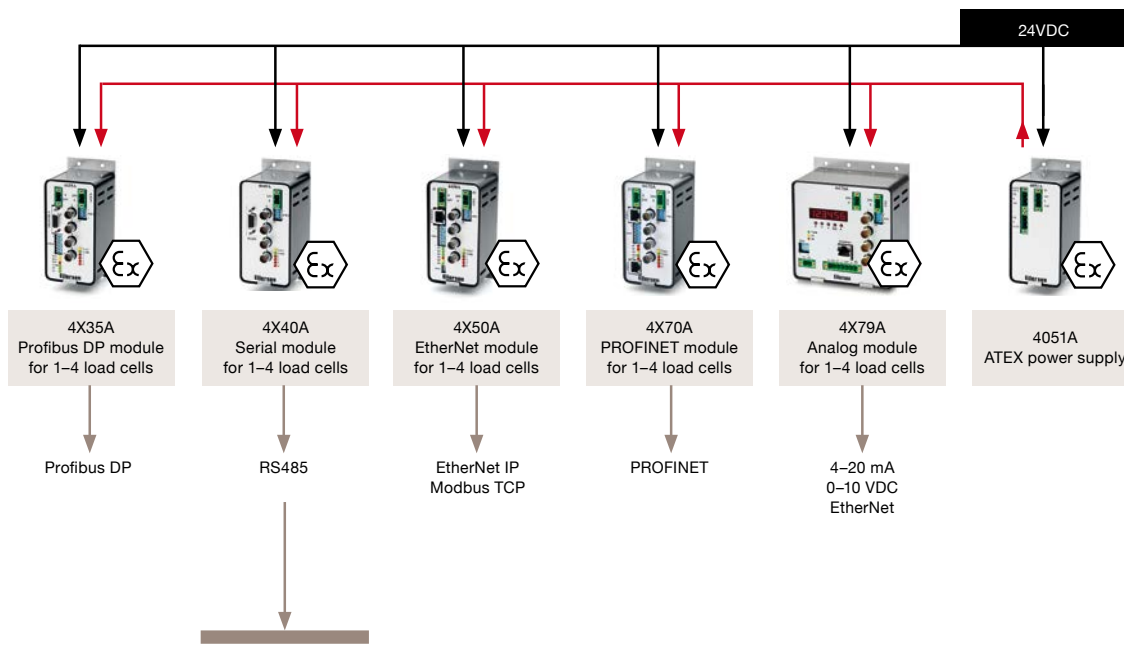
Patented and trusted worldwide

The capacitive technology and mechanical design of the Alfa Laval load cells has been patented and is trusted by customers in more than 85 countries worldwide.



Product overview

Next generation digital load cells



Digital weighing terminal



RS485
EtherNet IP
Profibus DP
PROFINET
4-20 mA

Load cell overview

Digital capacitive load cells



Non-atex	BL	SPSX	CL	CM
Atex	BL-Ex	SPSX-Ex	CL-Ex	CM-Ex
Load cell type				
Compression			•	•
Beam	•			
Single point		•		
Load cell features				
Digital capacitive technology	•	•	•	•
Stainless steel	•	•	•	•
EHEDG compliant design	•		•	•
IP68	•	•	•	•
Robust	•	•	•	•
Specifications				
Maximum capacity	1,000 kg	150 kg	5,000 kg	25,000 kg
Overload tolerance	> 300% of rated capacity			
Interface options	EtherNet IP, Modbus TCP/IP, PROFINET, Profibus DP, RS485, 4–20 mA, 0–10 VDC			
Applications				
Process weighing	•	•	•	•
Tank, vessel and silo	•		•	•
Filling and dosing	•	•	•	
Level measurement			•	•
Dynamic weighing	•	•		
Scales	•	•		
Conveyer belts	•	•		



Alfa Laval tank equipment and instrumentation offering

Rotary Jet Heads



TJ SaniMidget



TJ SaniMidget SB UltraPure



TJ SaniMidget retractor



GJ A6



TJ SaniJet 20



TJ 20G



TJ 40G



TJ SaniJet 25

Static Spray Balls



LKRK Static Spray Ball

Agitators and Mixers



Hybrid Power Mixer M15



Rotary Jet Mixer



Magnetic Mixer UltraPure

Tank Accessories



Sight Glasses



Tank Feet



ALS



ALB



ALTB

Instrumentation



Flow Transmitter



Rotacheck



Temperature Transmitter



Conductivity Transmitter



Pressure Gauge



Electric Pressure Gauge



Electronic Pressure Transmitter



Level Switch



Weighing Systems UltraPure



Flow Meter



Pressure Transmitter



Thermometer



Potentiometric Level Transmitter



In-line Instrumentation Housing

Tank Covers



LKDC-LP



Type R



LKD



LKDC



HLSD

Alfa Laval in brief

Alfa Laval is a leading global provider of specialized products and engineered solutions.

Our equipment, systems and services are dedicated to helping customers to optimize the performance of their processes. Time and time again.

We help our customers to heat, cool, separate and transport products such as oil, water, chemicals, beverages, foodstuff, starch and pharmaceuticals.

Our worldwide organization works closely with customers in almost 100 countries to help them stay ahead.

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com