Dynamic weighing with HBM

Precise weighing...
fine batching...
accurate filling ...
...on the fly

Digital data acquisition in highly dynamic processes -
using FIT® and AED

HBM

Weighing, batching, filling ...
... at high speed

Rely on the market leader's integrated solutions for your dynamic weighing:

___ **FIT® ("Fast Intelligent Transducer") digital load cells**

___ **AED digital transducer electronics**

___ **AED_Panel 32 intuitive software**

Profit from high speed and accuracy in dynamic weighing –
even with the most demanding weighing, batching and filling processes!

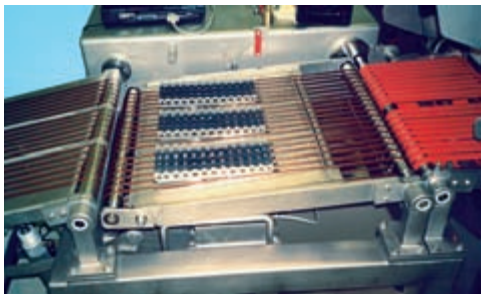
FIT® digital load cell

Analog load cell

AED transducer electronics

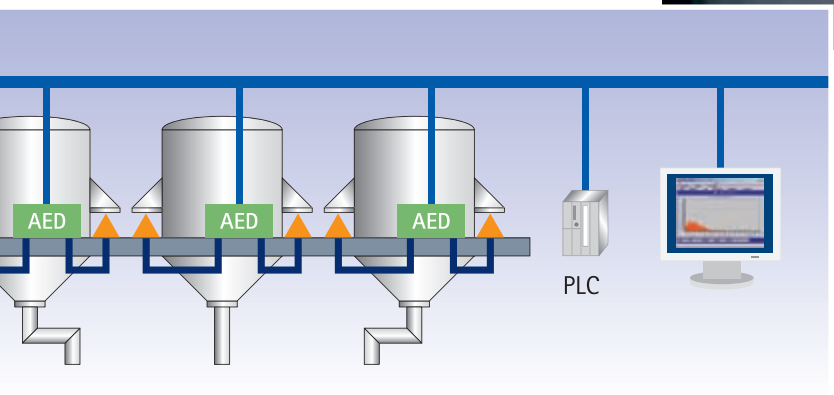
AED_Panel 32 analysis software

For details on the whole world of dynamic weighing with HBM,
please visit: www.hbm.com/weighing

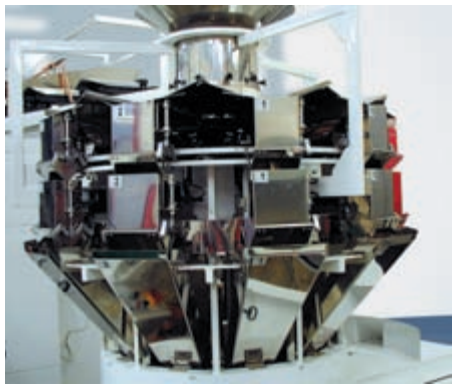


The portioning scale is an important component which is easily integrated into the packaging process

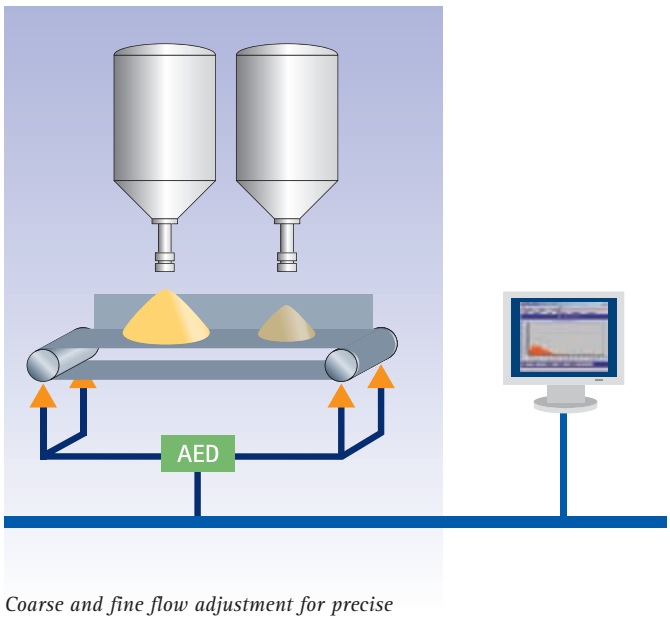
FIT® load cells enable bottling plants to be optimally controlled through the conditioning of measurement signals



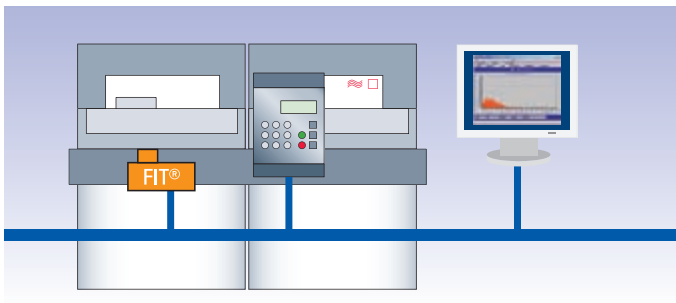
The AED transducer electronics polls the signals of analog load cells, e.g. during the gravimetric monitoring of the weight of tanks



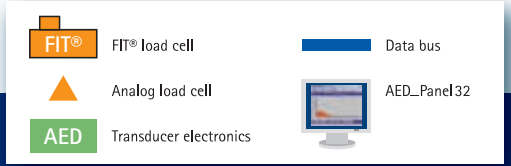
FIT® or analog load cells with AED precisely control the mix ratio in multi-station combination weighers



Coarse and fine flow adjustment for precise batching even of granular materials



Weight is determined extremely precisely even with highly dynamic measurements – example of a postal scale



Fast, reliable, precise ...
Digital precision using FIT® and AED

Transducers and electronics for your heavy-duty systems

The digital FIT® load cells:

Reliable, durable, highly precise

Through their robust design, HBM's family of digital FIT® load cells provides a long service life and high reliability. FIT® load cells have been developed specifically for dynamic weighing applications.

The FIT® high tech load cell meets your demanding requirements on weighing in modern manufacturing lines. Maximum throughput and, at the same time, extremely high accuracy – not a problem with FIT®!

Your benefits at a glance:

___ Integrated overload protection (patent pending)

___ Quick digital filtering, scaling of the measurement signal

___ Legal-for-trade per OIML R60/R76 for up to 3,000 divisions

___ Easy maintenance – for example, resists intensive chemical cleaning

The digital AED transducer electronics:

Turn your analog load cells into digital all-rounders

The AED makes implementation of your process control systems easy and convenient. AED converts the signals supplied by analog load cells into digital data. No new investments are required, because AED enables you to benefit from digital precision, also with the systems you have at hand.

Easy, direct and efficient:

Start up your AED quickly, since the complete transducer electronics can be set up directly through the PC. Furthermore, only little installation work is required thanks to the bus interfaces the system uses.

Your benefits at a glance:

___ Signal resolution of up to 1,000,000 digits

___ Legal-for-trade up to 10,000 divisions in class III scales

___ Power failsafe storage of default and user-specific parameters in the device

The digital FIT® load cells control your automated systems

The AED digital transducer electronics turns analog HBM standard load cells into digital all-rounders

Easy control of dynamic measurement tasks: The AED_Panel 32 software

The intuitive panel software ...

... enables you to set up all parameters for your measurement.

More features:

___ Calibration of the scale

___ Selection of bus address and baud rate

___ Entry of four limit values including hysteresis

___ Graphical analysis and visualization of results

Use the integrated graphics function to clearly visualize the behavior of the weighing process. In addition, you have several analysis functions at hand, for example the Fast Fourier Transform for frequency analysis. This function enables you to analyze the vibration behavior of mechanical interference sources.

Your benefits at a glance:

___ Clear PC panel software with graphical, Windows®-based user interface

___ Visualization of measurement and control signals

___ Comprehensive set of commands for diagnosis functions during operation

___ All functions can be controlled via PC

___ Integrated documentation of the setup parameters

50 digital filters provide protection against interference

Selectable filters eliminate undesired background signals resulting, for example, from vibrations or temperature effects. Results from static and dynamic measurements can thus be optimized.

The digital filters provide even more benefits ...

___ Maximum throughput, fast settling of measured values

___ Interference-proof, correct and reliable operation

___ Cost savings, because no damping elements are required

Clear:
The measurement signal within the tolerance band of limit values and trigger functions

Use the powerful AED_Panel 32 software for processing complex data from your weighing technology applications

Frequency analysis for analyzing the measurement signals quickly

Load cells and transducer electronics for dynamic ...at a glance

Choose the right components

The main features of HBM's digital load cells and transducer electronics are specified in the table.

	Digital load cells		
	FIT®/0	FIT®/1	FIT®/4
Maximum capacities	5, 10, 20, 50, 75 kg	5, 10, 20, 50, 75 kg	5, 10, 20, 50, 75 kg
Interfaces □ RS-232 RS-485 2-wire (diagnosis) RS-485 4-wire CAN Open DeviceNet Profibus DP V1	□ 	□ 	□
Max. output rate	1,200 / 600 Hz	1,200 / 600 Hz	1,200 / 600 Hz
External/internal pre-trigger	•	•	•
External/internal post-trigger	•	•	•
External/internal trigger	•	•	•
Number of limit values including hysteresis	4	4	4
Batching/Filling function	•	•	•
Digital I/O	•	•	•
Protection	IP67	IP66	IP66
EMC protection, CE symbol	•	•	•
Material	Aluminum	Stainless steel	Stainless steel
External supply voltage	11 ... 30 V	11 ... 30 V	11 ... 30 V

For the complete technical documentation, please visit ...

www.hbm.com/weighing

weighing ...

		Transducer electronics				
		Amplifier board	Basic device for the amplifier board			
FIT®/5	PW20i	AD103C	AED 9101B	AED 9201A	AED 9301A	AED 9401A
5, 10, 20 kg	5, 10, 20 kg					
□ ■ ■ ■ ■	□ – ■ – – –	□ – – – – –	□ – ■ – – –	□ – ■ – – –	– – – – – ■	– ■ – ■ ■ –
1,200 / 600 Hz	600 Hz	1,200 / 600 Hz	–	–	–	–
•	•	•	–	–	–	–
•	–	•	–	–	–	–
•	•	–	–	–	–	–
4	2	4	–	–	–	–
•	–	•	–	–	–	–
•	–	–	•	•	•	•
IP68	IP65	–	IP65	IP65	IP65	IP65
•	•	–	•	•	•	•
Stainless steel	Aluminum	PCB	Diecast aluminum	Diecast aluminum	Diecast aluminum	Diecast aluminum
11 ... 30 V	12 ... 30 V	5 V + 5 %	6 ... 30 V	18 ... 30 V	18 ... 30 V	18 ... 30 V
						

HBM provides you with extensive services

For over 50 years, HBM has been one of the leaders among the manufacturers of industrial weighing technology components all over the world. Millions of users place their trust in the precision and reliability of HBM's high-quality products.

Profit from the competence of our weighing technology professionals!

- Our experienced service engineers consult, install, measure, and calibrate – also at your premises
- Gain knowledge – in our seminars and workshops for newcomers and professionals in measurement technology
- Rely on the support provided by our weighing technology experts – contact us at any time through our service hotline and at ...

... www.hbm.com

The whole world of weighing technology on the Internet:

www.hbm.com/weighing

- Products, applications, services, technical articles, seminars ... at a glance
- Practical examples of digital weighing technology applications
- Free download of technical documentation and the AED_Panel 32 software
- Don't miss any news on HBM weighing technology – from product news through trade fair dates.

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measure and predict with confidence

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