



**Flüssiggas-Anlagen**

## »Group 23«

**Filling Systems**

**Accessories**



Flüssiggas-Anlagen GmbH • Peiner Straße 217 • D - 38229 Salzgitter (Germany)

Tel. +49 (0) 53 41 / 86 97-0 • Fax +49 (0) 53 41 / 86 97-11

E-Mail: [info@fas-uni.de](mailto:info@fas-uni.de) • <http://www.fas-uni.de>



### Filling Scales filling pressure up to 25 bar

For bottling liquified gases such as propane and butane and other industrial gases (special model for dangerous and abrasive products, separate setting for tare and filling weight, Once the set filling weight has been reached, the supply of the product is automatically cut off.

Filling scale is available with mechanical (m) or pneumatical (p) control, inlet and outlet W 21,8 x 1/4" left male,

All models are suitable for use in stationary plants. Complete filling plants with carousel applications and filling scales with roller conveyors are available on request.

Order No.	Type	Shut Off	Setting		Fig.	Weight (kg)
			Tare Weight	Filling Weight		
23 001	WA 100m <sup>1)</sup>	mechanical	55 kg	50 kg	1	90,0
23 054	WA 105m <sup>1)</sup>	mechanical	55 kg	50 kg	1	90,0
23 002	WAB 90p	pneumatical	55 kg	35 kg	2	90,0
23 075	WAB 90m	mechanical	55 kg	35 kg	2	90,0
23 003	WAK 110m	mechanical	55 kg	55 kg	3	95,0
23 101	LWS 100m	mechanical	55 kg	50 kg	like 3	90,0
23 102	LWS 100p	pneumatical	55 kg	50 kg	like 3	90,0

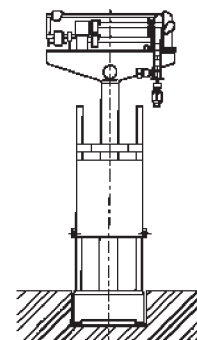


Fig. 1

### Extra Charge - Accessories for Filling Scales

Order No.	Execution
23 006	<b>Balancer</b> for suspension of filling adapter to relief weight when in use
23 007	<b>Folding Platform</b> to facilitate filling of small cylinders, secured to back frame
23 008	<b>Folding Element Filter</b> DN 9, PN 100, of aluminium, with replaceable filter insert, W 21,8 x 1/4" left male / female
23 009	<b>LPG High-Pressure Hose</b> DN 10, PN 25, length = 1,75 m, with connection W 21,8 x 1/4" left union nut on both sides, with test certificate
23 010	<b>Gallows</b> for filling scales
23 055	<b>Bracket</b> for mechanical filler connection
23 056	<b>Foundation frame</b> , galvanized
23 057	<b>Distributing adapter</b> for 2 filling hoses
10 154	<b>Adapter</b> , 1/2" NPT male - W 21,8 x 1/4" left male



Fig. 2



Fig. 3

<sup>1)</sup> type WA 100m (standard model) for filling speeds from 10 kg/min, type WA 105m for smaller filling speeds from approx. 5 kg/min

Other models and accessories are available on request. Please ask for our detailed technical information leaflets. We execute maintenance work on filling scales.

### Table Filling Scale filling pressure up to 25 bar

For bottling propane and butane in camping and small cylinders, separate setting of tare and filling weight, once the set filling has been reached, the supply of the product is mechanically / automatically cut off, filling scale with mechanical control inlet W 21,8 x 1/4" left male, bridge size 440 x 320 mm, including a mechanical hand filler connection with W 21,8 x 1/4" left female, with high pressure hose and a hose bracket.

Order No.	Type	Shut Off	Setting		Fig.	Weight
			Tare Weight	Filling Weight		
23 004	WAT 42	mechanical	21 kg	21 kg	4	23

### Accessories for Table Filling Scales

Order No.	Execution
23 008	<b>Folding Element Filter</b> DN 9, PN 100, of aluminium, with replaceable filter insert, W 21,8 x 1/4" left male / female
23 009	<b>LPG High-Pressure Hose</b> DN 10, PN 25, length = 1,75 m, with connection W 21,8 x 1/4" left union nut on both sides, with test certificate
10 154	<b>Adapter</b> , 1/2" NPT male - W 21,8 x 1/4" left male

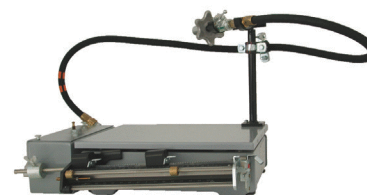


Fig. 4

Further filling connections on request.

### Check Scales

Ground scales in painted steel enclosure, approved for all weighing operations with required calibration, double-spring weighing mechanism insensitive to temperature, with vibration absorber, zero reset and locking device, 100 g divisions, accuracy of reading: 50 g

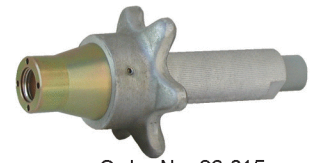
Order No.	Type	Weighing Range	Platform	Weight
23 011	604	2 - 100 kg	563 x 560 mm	60,0
23 012	Charges for calibration			
23 022	Tare compensation to approx. 25% of weighing capability			

Further check scales suitable for calibration, e. g. for installation into the floor are available on request.



**Filler Connection mechanical**

Order No.	Type	Model	Connection	Weight
23 015	1072	with aluminium handwheel and integral back pressure check valve as screw coupling	W 21,8 x 1/4" left (inlet-male / outlet-female)	1,1
23 061	10255	for plug-in connection	W 21,8 x 1/4" left male (inlet)	2,5

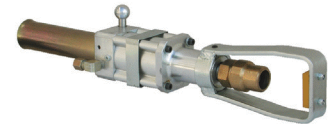


Order No. 23 015

**Filler Connection pneumatic**

A pneumatic quick-release coupling with integral back pressure check valve, actuated by push-button-operated control valve, suitable for cylinder valves with screw connection, max. ø 23 mm

Order No.	Type	Connection	Weight
23 016	6124	W 21,8 x 1/4" left male (inlet)	2,7

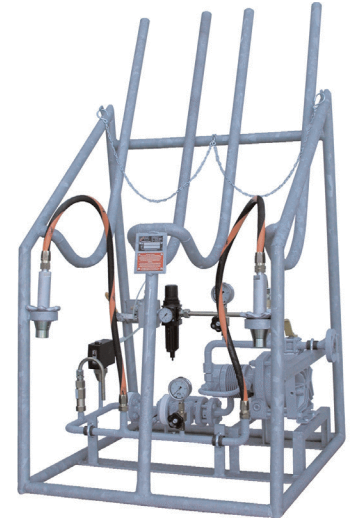


Other filling connections are available on request.

We supply spare parts for filling connections and perform maintenance work on filling scales.

**Evacuation Unit for Gas Cylinders** with pneumatic piston pump, PN 25, type FAS, Drive and control of the piston pump is only effected with clean and dry compressed air with a min. working pressure of 6 bar. The necessary air requirement for an effective operation is approx. 800 l/min., with test report 2.2 to EN 10 204

**Order No.** Execution  
**23 032** **Evacuation unit with pneumatic piston pump**, fully assembled including pipework in robust tubular steel frame for 2 LPG cylinders, cylinder support frame not tilting, with compressed air piston pump for withdrawal of liquid and vapour, infinitely variable capacity, valves and hoses for attachment of cylinders, cylinder connection W 21,8 x 1/4" left, suction side with strainer, sight flow indicator, pressure gauge and safety relief valve, discharge side with pressure gauge, safety relief valve and ball valve, outlet connection: flanges DN 15 PN 40, complete with compressed air maintenance unit G 1/2", necessary operating air pressure 6 bar



**Accessories for an Automatic Switch Off at a Minimum Pressure**

**Order No.** Execution  
**23 036** **Pressure switch** for shutdown of the piston pump when required minimum pressure has been reached, setting pressure 0,5 - 25 bar, pilot pressure 1,5 - 8 bar  
**23 038** **Pneumatic 3/2 -way valve** for cutting off compressed air supply in conjunction with pressure switch order no. 23 036, connection G 1/2", operating air pressure 1,5 - 16 bar, pilot pressure 1,5 - 16 bar

Further executions e. g. for 3 or 4 gas cylinders are available on request.

**Evacuation Unit for One Gas Cylinder** with hand filling pump, PN 25, type FAS, with test report 2.2 to EN 10 204

**Order No.** Execution  
**23 058** **Evacuation unit with hand filling pump**, fully assembled including pipework in robust tubular steel frame for one LPG cylinder (cylinder support frame not tilting), with valve and hose for attachment of gas cylinder, flange connection W 21,8 x 1/4" left, suction side with strainer, sight flow indicator, pressure gauge and safety relief valve, discharge side with pressure gauge, safety relief valve and ball valve, outlet connection: flanges DN 15 PN 40

**Pneumatic Piston Pump PN 25**, with test report 2.2 to EN 10 204

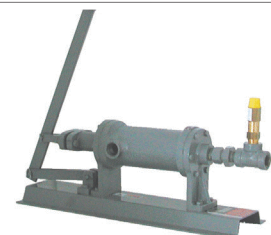
**Order No.** Execution  
**23 033** **Pneumatic piston pump** for transfer of butane / propane (liquid and vapour phase), max. delivery pressure 15 bar, flow rate continuously adjustable by means of compressed air regulator, complete with compressed air maintenance unit G 1/2", drive and control of the piston pump is only effected with clean and dry compressed air with a working pressure of 6 bar. The necessary air requirement for an effective operation is approx. 800 l/min.



**Hand Filling Pump PN 25**, single-acting, with safety relief valve, in pump outlet, setting pressure 25 bar, with test report 2.2 to EN 10 204

Capacity: approx. 0,5 l/stroke  
 Operating Pressure: max. 25 bar  
 Connections: suction side 1" NPT female, pressure side 3/4" NPT female

Order No.	Type	Weight
23 035	FAS	28,0



**Automatic Leakage Testing Unit for Cylinder Valves for 5, 11 and 33 kg LPG cylinders, with test report 2.2 to EN 10 204**

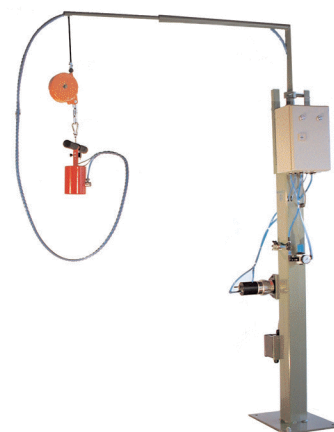
<b>Order No.</b> 23 041	Type FAS	Consisting of:
		<ul style="list-style-type: none"> <li>- solid tubular steel construction</li> <li>- pneumatic centering of cylinders</li> <li>- test bell with all necessary connecting hoses</li> <li>- suction pump</li> <li>- sensor module, explosion-proof</li> <li>- racks for detection modules for monitoring flammable gases, calibrated for propane / butane, measuring range 0 - 100% LEL</li> <li>- measuring models with fluorescent display</li> <li>- pneumatic control system installed in sheet steel housing</li> </ul>

The system adjusts pneumatically to the various cylinder sizes. The testing unit is self-contained with its own power supply of 230 V AC / 50 Hz. The gas is monitoring by means of a sensor module. The alarm level can be set at any value within the measuring range. The electronic control system must be mounted outside of the hazardous area.

**Manual Electronic Leakage Testing Unit for gas cylinders, with test report 2.2 to EN 10 204**

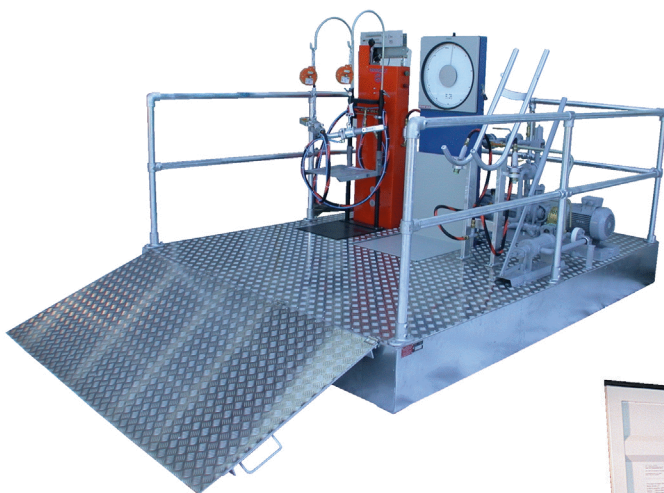
The electronic tightness testing unit is operated manually (placing of test bell, as well as extracting according to alarm signal). However, the signalling is controlled by the evaluation unit and is independent of the operator. The measuring principle is based on infrared absorption with two different wavelengths. The unit shows existing gas constituents in accordance with the measuring range and the calibrated gas type.

<b>Order No.</b> 23 110	Type FAS	Consisting of:
		<ul style="list-style-type: none"> <li>- standpost with fixing device</li> <li>- balancer for counterweight</li> <li>- test bell with all necessary connecting hoses</li> <li>- suction pump</li> <li>- sensor, explosion-proof</li> <li>- evaluation unit 19" rack system, 230V, 50 Hz (not ex-proof, for installation outside of the hazardous area)</li> <li>- pneumatical drop signal for signalling</li> </ul>



**Cylinder Filling Unit in Compact Construction / Container Version**

The unit is completely mounted in a steel container with filling scale, check scale suitable for calibration and cylinder evacuation unit with hand filling pump, including pipework and all necessary valves and safety equipment.



Other executions according to customer's requirements available on request.