

# WALTHER PILOT



## Quality All Round

- Pressure Tanks
- Containers
- Fluid Transfer Systems



Die Beschichtungs-Experten

# Vessels from the all-rounders

## Take advantage of our expertise and our wide product range



- Small pressure containers
- Standard pressure tanks
- Vacuum vessels
- Heating and cooling jacket tanks
- Pressureless vessels
- Agitators
- Barrel lids with lifters for original cans
- Level measurement and control technology

- ✓ Pressure Equipment Directive
- ✓ ASME Code
- ✓ Chinese Safety Quality License?

**No problem!**



WALTHER PILOT pressure vessels meet the highest demands in terms of safety.

The Conformity Assessment procedure chosen by us in compliance with Directive 97/23/EC ensures that we can react to special customer requests with a high level of flexibility.

Furthermore, we are certified to manufacture and approve pressure vessels in accordance with the US-American ASME Code (U-Stamp) and with the Chinese regulations.



The Pressure Equipment Directive 97/23/EC regulates the design, approval and use of pressure vessels and other pressure equipment in all member states of the EU. As a leading manufacturer of pressure tanks, WALTHER PILOT has implemented the Pressure Equipment Directive over its entire product range. This applies not only to standard vessels but also to special or custom-made vessels.

Vessel manufacturing also meets the strict requirements of the EN 9001 quality norm.



# Versatility for a wide range of industries

- Automotive industry
  - Automotive suppliers
  - Surface technology
  - Plastics processing industry
  - Chemicals industry
  - Pharmaceuticals industry
  - Cosmetics industry
  - Food industry
  - Glass industry
  - Machine and plant engineering
- Ceramics industry
  - Mixing and dosing technology
  - Foam and adhesives processing
  - Foundries
  - Manufacturers of lacquers, paints, adhesives and separating agents
  - Aeronautics and space technology



Autoclave with insulation, can be heated to 200°C, max. pressure: 6 bar.



Pressure tanks and control cabinet for automatic application of separating agent for profiles

2-component system for four colours for spray application



Two vacuum vessels as heating jacket tanks – 1000 litres and 500 litres – for polyurethane processing





Pressure vessels for processing viscous masses (stone granulate or synthetic resin) for the manufacture of coils



Colour mixing tanks in the automotive industry



Barrel lids with lifters for material transport from the barrel



Colour dosing system for mass coloration of car steering wheels

Colour mixing tanks in the automotive supply industry



Rear view of a dosing and mixing system for moulded parts such as coils or heart pacemakers



Machine for mixing and dosing two-component moulding materials such as epoxy resins, polyurethane, silicone, etc.



# Quality all round

When it comes to making vessels, we can manage just about anything. But that's not the only reason why vessels from WALTHER PILOT are a good deal all round. They are also a worthwhile investment. You are guaranteed a product that is made in our own factory and one that meets the high quality and safety requirements that you take for granted in your own production.

WALTHER PILOT recognised the potential for vessel manufacture at an early stage and has gained an excellent reputation as a supplier to industry and trades. Vessels are needed everywhere – liquids or paste-like media have to be transported in almost every sector of industry.



Inconspicuous but effective: two pressure pots are concealed inside the housing of the dosing system and transport the material to the dosing station

In consultation with our business partners, we constantly develop innovative and tailor-made solutions. You too can profit from this know-how. Flexible production methods allow manufacturing time to be kept short even for special customer requirements. The high quality and safety standards are guaranteed by a qualified workforce and by continuous investment in new machinery.

Our market leadership in the field of pressure pots has been constantly extended by a wide range of standard and custom-made solutions. And the trend is still upwards.

The future is looking bright too as far as other countries are concerned. We can produce our vessels to meet most European manufacturing standards as well as the American ASME Code. Even the requirements of the Chinese Safety License are fulfilled.

Many customers find pressure and vacuum vessels so attractive because they are able to carry out several tasks at the same time:

1. The material is safely stored – and no vapours are allowed to escape.
2. The material can be stirred or temperature controlled.
3. The material is delivered continuously and without pulsation – the ideal precondition for dosing purposes.

Other material delivery systems are not able to perform such "multitasking". Therefore, pressure and vacuum vessels provide an ideal combination of economic and safety aspects. What is more, WALTHER PILOT manufactures vessels which make full use of all possibilities for process automation, even going as far as automatic filling.

Bulk containers and autoclaves as well as pressure vessels for leak testing complete the product range.

But we shouldn't forget that, when it comes to transporting material, a vessel is just a means to an end. Extensive container solutions are the result of an active examination of everyday industrial practice. And that is the reason why WALTHER PILOT does not confine its expertise only to making vessels but is also involved in the project management of efficient and high quality total system solutions, for example for material circulation. All the necessary components, such as pumps, lids with lifters for original containers, filters for compressed air and material, level control and measurement technology, forward and return flow controllers and ring circuits, are part of our wide range of products and services.

So why not take advantage of the competence of an all-rounder in all aspects of material delivery.

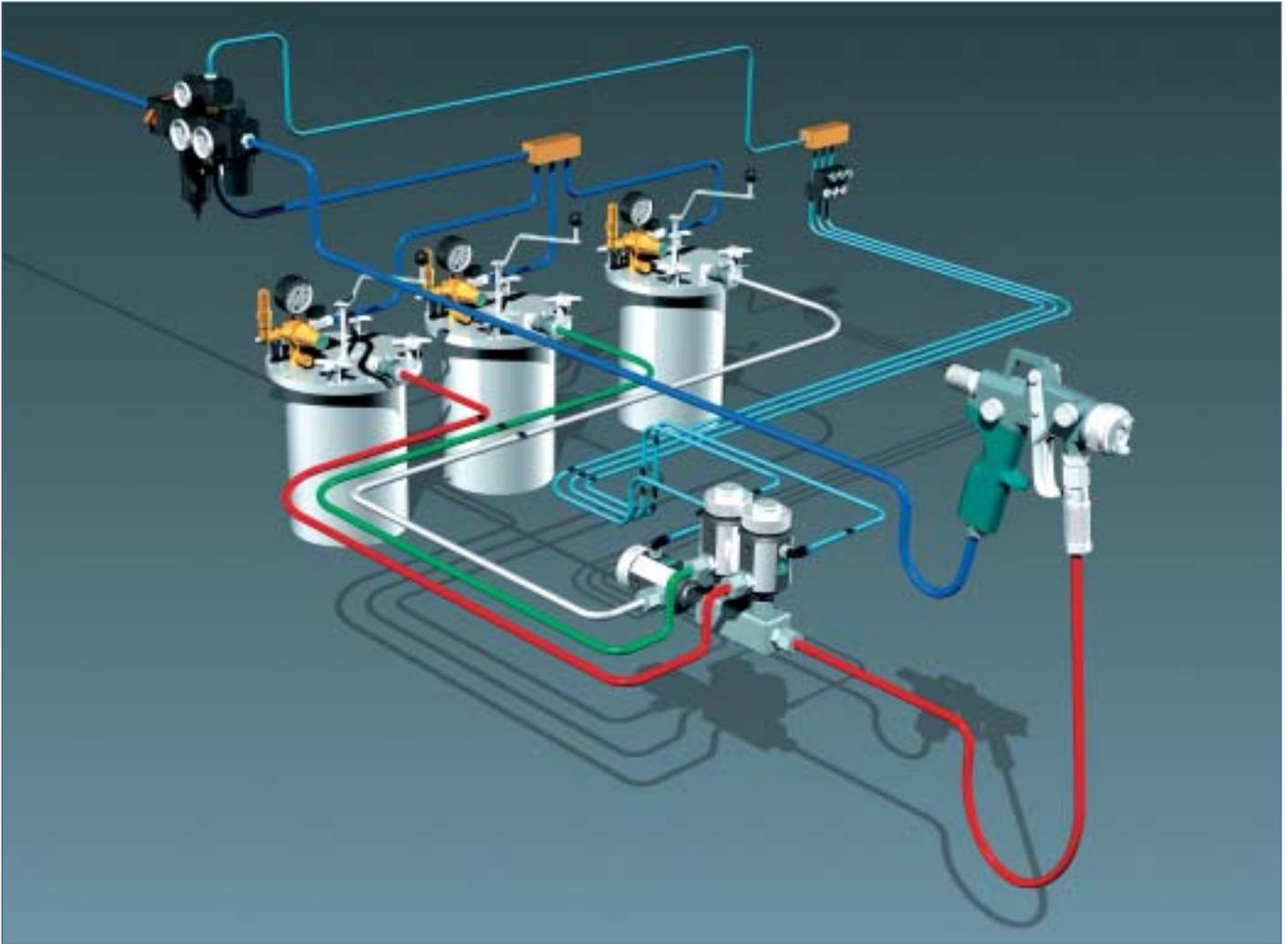
WALTHER PILOT vessel solutions are an investment with hardly any follow-up costs – we certainly don't earn much from selling replacement parts. Whether you use pressure pots, vacuum vessels or pressureless containers, there are only very few wearing parts. This guarantees a maximum of process reliability with a minimum of maintenance.

You can also find information on the Internet. Please visit our website, where you will find regular updates on our new products and solutions to your material handling problems.

We would also be happy to include you on the mailing list for our information service. Just send us a fax or an e-mail and we will automatically mail you the latest news and practical tips.

[www.walther-pilot.de](http://www.walther-pilot.de)

# Put your vessel(s) under pressure



## Filter systems

■ With filtered compressed air control systems from WALTHER PILOT you will avoid contaminating your valuable materials. The units are available as modules so that, as can be seen in the above illustration of a spraying system for two-colour operation, other system requirements can also be taken into account.

■ The air inlet fitting on the pressure tank itself is reverse controllable, which means that the working pressure can be changed at any time without bleeding the vessel.

■ For pressure-sensitive applications, WALTHER PILOT offers precision reducing valves with fine adjustment.

■ For media which react with humidity, silicagel filters are available in various sizes.

■ The vessels can also be equipped with material filters. We supply strainer inserts with various mesh sizes.

■ We not only make vessels but provide tailor-made solutions for all special requirements.



Air filter H2



Pressure tank MDG 45 equipped with material filter and silicagel filter.

# Advantages for coating technology



**In many cases, the use of pressure tanks will improve results.**

**They also have a positive influence on work ergonomics.**

■ The material can be supplied to the spray gun over a long period without interrupting the job.

Troublesome filling and cleaning are no longer necessary.

■ The material is safely stored.

■ The even, pulsation-free delivery ensures an excellent spray finish.

■ For spray guns with pressure pots, the material pressure and the air pressure can be optimally matched to each other. This also allows for special nozzle/air cap systems which guarantee excellent coating quality even for critical materials.

■ Since the material is delivered under pressure, material flow and working speed are generally higher than for spray guns with cups.

■ The ergonomic benefits of spray guns supplied from pressure pots should not be underestimated. Since there is no longer a heavy gravity cup, the gun can be handled much more comfortably.

■ The weight advantages also become positively apparent if the gun is used for a longer period.

**Our own production in the Neunkirchen-Struthütten factory offers you high manufacturing standards, constant quality control and maximum safety and reliability.**



Computer aided design (CAD) on the screen



CAD implementation in laser cutting...



... and at the welding robot



# Small pressure containers

## Type MDG

### Small pressure containers for high handling comfort

In addition to the standard pressure pots MDG 1-4, special versions can be supplied for all requirements. All small pressure containers are exclusively made of stainless steel in all qualities (1.4301, 1.4541, 1.4571, etc.).

This ensures that the material contents are not contaminated by corrosion. If required, surface refinement can also be carried out.

The model MDG 4 can also be used with an agitator. Sight glass fittings and indicators for temperature and filling level as well as overfilling protection systems can be installed to suit the particular application.



MDG 4 with air powered agitator



MDG 2



MDG 1

### Technical data – Standard pressure pots

Type	MDG 1*	MDG 2*	MDG 3*	MDG 4
Max. working pressure [bar]	3/6	3/6	3/6	4/6
Capacity [litres]	1	2	3	4
Weight without agitator [kg]	4,3	4,9	5,5	10
Inner diameter [mm]	125	125	125	162
Flange diameter [mm]	170	170	170	222
Height without lid [mm]	163	223	283	225
Overall height without agitator [mm]	278	338	398	363
Overall height with air powered agitator [mm]	–	–	–	363

\* only available in stainless steel

Subject to change without notice

# Special versions

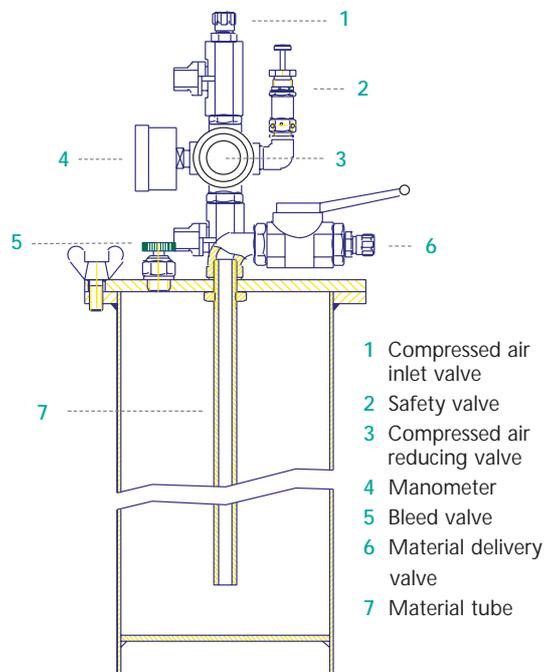
## Special pressure tank for laboratories

Especially for laboratories, pressure pots with a hinged and screw-down lid are available to reduce opening times to a minimum.

In addition, WALTHER PILOT can supply pressure tanks suitable for containers for hazardous goods. The MDG 3, for example, is especially suited for use with 1-litre bottles for hazardous goods.



## Pressure vessel MDG 3 for hazardous goods bottles



## Special pressure pot for highly viscous material

Highly viscous material needs high pressure. WALTHER PILOT also designs and manufactures pressure pots for the high pressure range (to 150 bar) in accordance with all rules of safety.



## MDG lightweight

All lightweight pressure pots are made of non-corroding stainless steel. The maximum working pressure is 6 bar.

- MDG 5: Capacity 5 litres
- MDG 10: Capacity 10 litres
- MDG 19: Capacity 19 litres



MDG 5

## Spraying system for

- stains
- varnishes
- separating agents

This stainless steel pressure tank (MDG 19) is fitted with a Tecalan tube for level indication – a simple and cost-effective solution.

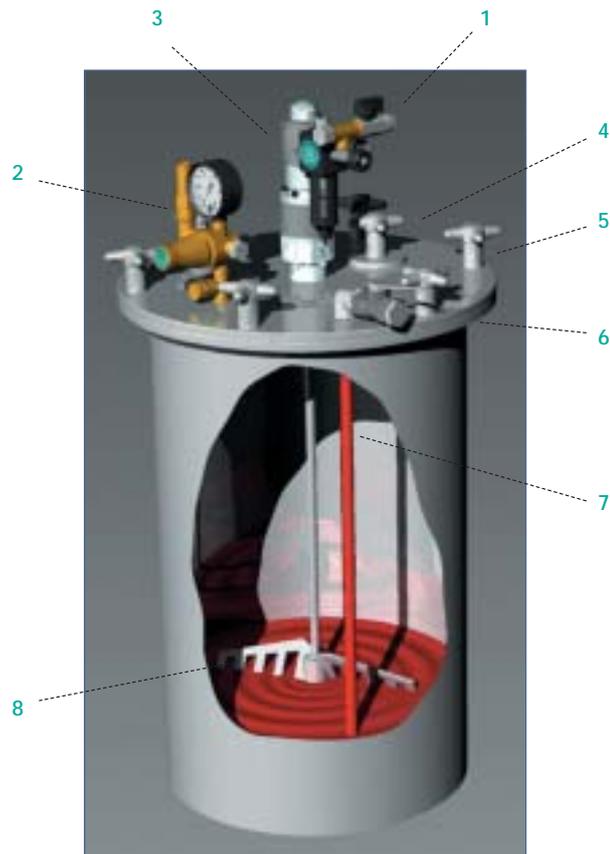
For processing strongly settling materials (water-borne coatings) the pressure pot can be fitted with an aerator.



## Type MDG

### Basic components of a standard pressure vessel

- 1 Air input valve
- 2 Compressed air fitting (reverse controllable) with component-tested safety valve, manometer and ventilation valve
- 3 Agitator (optional)
- 4 Material filler lock
- 5 Star grips for opening and closing the pressure tank (in small pots: wing nuts)
- 6 Material delivery valve (versions with a delivery valve at the container base are available)
- 7 Material tube
- 8 Agitator (many different geometries are available)



### Technical data – Standard pressure pots

Type	MDG 8	MDG 12	MDG 22	MDG 24	MDG 45	MDG 60	MDG 90	MDG 120	MDG 250	MDG 500
Max. working pressure [bar]	4	6	6	6	6/4	6/3	6/2	6/2	6	6
Capacity [litres]	8	12	22	24	45	69	90	120	250	500
Liner** contents [litres]	–	8	–	18	–	45	51,5	70	–	–
Weight without agitator [kg]	17	21	31	26	44	48	63	72	127	186
Weight with manual agitator [kg]	19,5	23,5	33,5	28,5	46,5	50,5	66,5	75,5	130,5	189,5
Weight with air powered agitator [kg]	21,5	25,5	35,5	30,5	48,5	52,5	68	77	132	191
Weight with electric agitator [kg]	28	32	42	37	55	59	75	84	139	198
Inner diameter [mm]	213	244	270	244	362	362	442*	442*	692*	692*
Flange outer diameter [mm]	290	320	356	320	438	438	450	450	700	700
Height without lid [mm]	250	358	440	608	572	724	844	1044	974	1688
Overall height without agitator [mm]	382	538	622	788	757	909	1029	1229	1159	1873
Overall height with manual agitator [mm]	577	683	767	933	902	1054	1174	1374	1304	2018
Ov. height with air powered ag. [mm]	512	618	702	868	837	989	1109	1309	1239	1953
Overall height with electric agitator [mm]	647	753	837	1003	972	1124	1244	1444	1374	2088

\* smallest inner diameter at neck ring 356 mm

\*\*not included, available as optional extra

Subject to change without notice

## Product range and models

The product range covers a wide variety of standardised pressure vessels up to tanks with a capacity of 500 litres (see Table). Special sizes up to approx. 5,000 litres are available on request.

In addition to galvanised versions, stainless steel in the qualities 1.4301, 1.4541, 1.4571, etc. is used. This ensures that the material cannot be contaminated by corrosion formation.

If required, surface finishing (blasting, grinding, polishing, electro-polishing, coating) can be carried out.

Tank liners made of plastic or enamel are also available.

Certain series of pressure tanks are made especially for use with standard Euro cans, so that cleaning and disposal requirements are greatly reduced.

## Whether you choose a standard or special model – these are your benefits:

- Even material flow, no pulsation
- Constant material consistency by agitators
- No skin formation on the liquid surface
- No escape of gaseous media (e.g. solvent vapours)
- Long service life – hardly any wearing parts
- High operational safety

The pressure tanks MDG 45 to 250 with a working pressure of 6 bar are also fitted as standard with a base outlet valve.

## Your safety package:

- WALTHER PILOT manufactures pressure vessels in compliance with the strict requirements of the Pressure Equipment Directive 97/23/EC.
- Before delivery, every pressure tank is subjected to an overpressure test in accordance with the regulations for pressurised containers.
- All standard pressure tanks from MDG 12 bear the GS mark.
- All pressure tanks have a connection for a ground cable to discharge static charges.
- Every pressure tank is supplied with a manufacturer's certificate or a pressurised container certificate (TÜV approval).
- Explosion-protected electric adjustable mechanism agitators can also be supplied for use in Zone 1. See also page 15.
- For electric agitators with a magnetic clutch, the pressure pot interior is hermetically sealed from the surroundings; the rotary motion is transmitted without contact. This puts safety first when using flammable or toxic substances.

## Agitators – the right mixture

The WALTHER PILOT range of agitators is matched in every respect to the range of pressure tanks. All agitators can be used – with different fittings – both for pressure pots and vacuum or pressureless vessels.

- Manual agitators
  - Air powered agitators
  - Electric agitators either explosion-protected or non-explosion-protected
- Drives:
- a. fixed speed
  - b. reversible pole
  - c. infinitely variable speed – mechanical
  - d. variable speed – electric, via frequency converter
- Agitators for all media

Find out more about our agitators on page 15



The new pneumatic agitator with a planetary gear is compact and powerful.

## The Euro can – easier working

Special pressure tanks are available for use with standard Euro cans. They allow easy working direct from the can and save cleaning work.

The following MDG types fit the usual can sizes:

10 litre Euro can: MDG 22

15 litre Euro can: MDG 22

30 litre Euro can: MDG 45

In addition, WALTHER PILOT supplies stainless steel liners for processing aqueous or aggressive media.



# Special containers

## Vacuum vessels

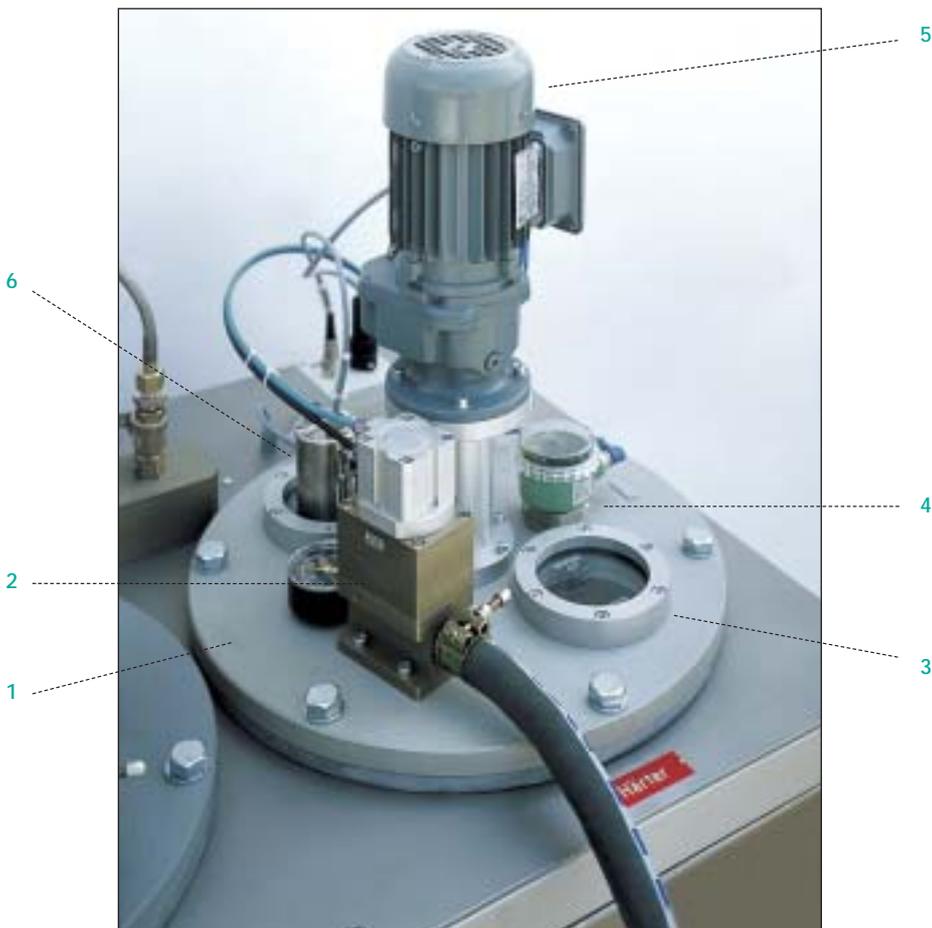
The use of vacuum technology in storage containers offers many advantages when it comes to keeping the properties of the material stable. For example, when stirring in a vacuum there is no danger of introducing air into the material. The absorption of moisture from the ambient air is also avoided. This is important, for example, in the processing of casting resin, where moisture from the air or air inclusions can impair the quality of the casting compound.

WALTHER PILOT vacuum vessels guarantee a constantly high casting quality. The vessels are fitted with level sensors, so that they are filled automatically when the low limit is reached. There is no need to interrupt the job.

The material is fed in via a suction valve. Below the opening, a baffle plate breaks the material apart, also serving to largely degas the material. This effect is reinforced by the use of agitators, which also provide an optimum homogenisation of the material.

In order to guarantee the required flow behaviour, thermal conditioning can be achieved by a heating band laminated onto the vessel.

In addition, the lid is fitted with an illuminated inspection glass so that optical monitoring of the material is possible at all times.



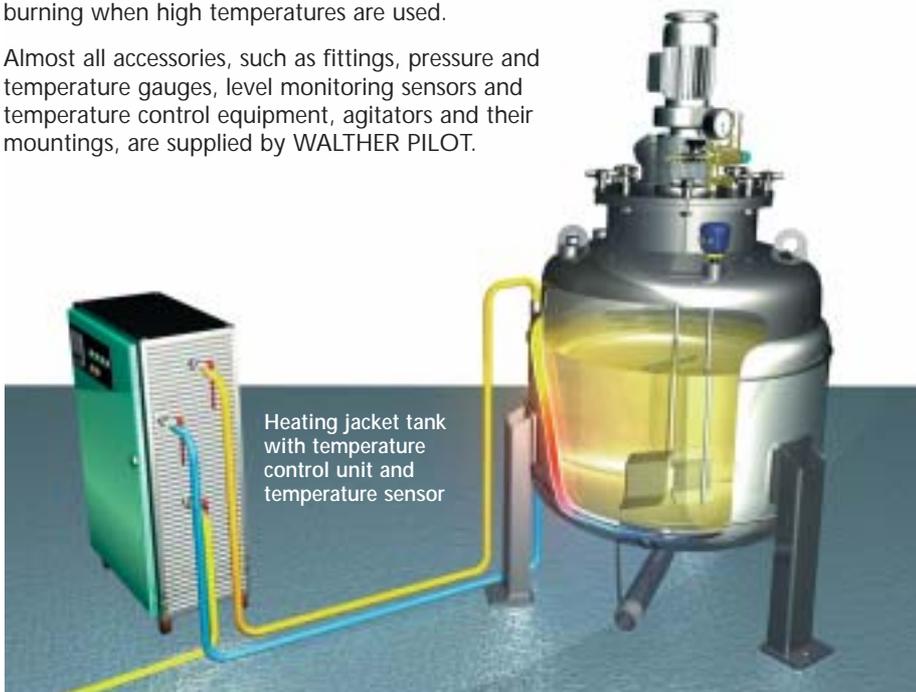
1. Built-in vacuum container, galvanised or stainless steel
2. Easy filling via automatic filling valve
3. Inspection glass
4. Level monitoring with programmable min./max. level gauge
5. Electric agitator with vacuum agitator fitting
6. Illuminated inspection glass

# Heating jacket tanks – cooling jacket tanks

When processing temperature-sensitive media, make sure to use WALTHER PILOT heating and cooling jacket tanks. The heating or cooling agent circulates around the material.

Depending on requirements, the heating jacket tank can be additionally insulated. An insulation specially matched to the requirements ensures optimum process engineering, reduces energy demands and avoids the risk of burning when high temperatures are used.

Almost all accessories, such as fittings, pressure and temperature gauges, level monitoring sensors and temperature control equipment, agitators and their mountings, are supplied by WALTHER PILOT.



## Electric auxiliary heating

Apart from temperature control by fluids, tanks with electric auxiliary heating are also available. A heating collar is placed around the tank like a jacket and insulated as required.

The auxiliary heating is fitted with a thermostat and temperature controller and is ready to plug in. Different power ranges are possible, depending on the application. Even large-volume tanks can be fitted with a heating collar and additional insulation.



Tank with electric auxiliary heating (heating collar) and insulation.



Tanks can also be given an external coating as required.



The WALTHER PILOT special container division offers lid designs for almost any application. No matter how you want to fill the container – either manually or automatically – we have the tailor-made solution.

Welded-in bushings ensure that the tank can be later fitted with level sensors or temperature gauges as required.

# Pressureless tanks

## Material mixing and storage tank Type FMB



19 giant tanks ready for delivery to an OEM car paint shop in the Czech Republic

The Type FMB paint mixing tanks are available either galvanised or in stainless steel in qualities 1.4301 pickled, 1.4541, 1.4571, etc. – and can also be electro-polished. The lid is flanged and hinged. Tank capacities range from 35 to 3,000 litres. Other versions are available as part of our special container programme.

If required, the tanks can be internally lined with enamel, Vetrodur, PTFE or other plastics.

Various pumps are available for material delivery.

We supply and install all the necessary components, such as agitators, level indicators and ring circuits.



### A shining example...

of an electro-polished tank. The special lid design prevents contamination of the contents.

Equipment:

- Electric agitator
- Temperature gauge
- Level sensor
- Inlet for automatic filling

## Material circulation system

WALTHER PILOT material circulation systems are designed in such a way that even materials with a strong tendency to settle can be processed without difficulty.

### Stainless steel circulation unit for water-borne materials,

with a collector tray, paint mixing tank (Type FMB 125), diaphragm pump with suction unit for a 200-litre barrel, four-ball pump for high pumping rates, pulsation evaporator, double filter fitting to allow filter changing while the unit is in operation, pressure gauge (material pressure), backflow regulator and compressed air regulator valves.



# Agitators



## Electric adjustable-mechanism agitator

The speed is infinitely variable. The agitator is explosion protected and suitable for operation in Zone 1. As an option, the electric adjustable-mechanism agitators can be fitted with temperature limit detection.

## Something is stirring

It's the mixture that counts. Therefore, an agitator for homogenising the material is often a vital part of a process container.

As a container specialist, WALTHER PILOT is also a specialist for agitators, and one who can provide optimum service in all questions of economy and safety – from a simple manual agitator to a frequency-controlled electric agitator.

## Agitator arms

We supply the right agitator arm for every application.

A range of different geometries is available.



Perforated agitator arm.



In this special container, the agitator motor and gearing are underneath the container base. The shaft and the agitator arm can therefore be easily removed.

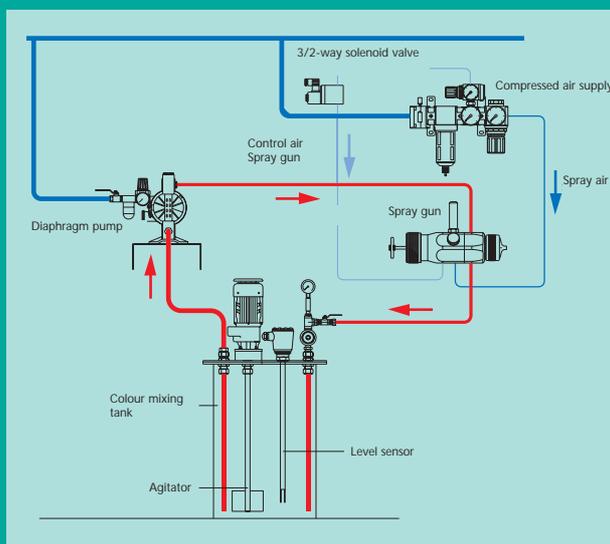


A special agitator arm with adjustable blades is used.

## Connection diagram of a simple material circulation system

The material is transported from the tank to the spray gun by a pump. The material flows back to the tank via the backpressure regulator.

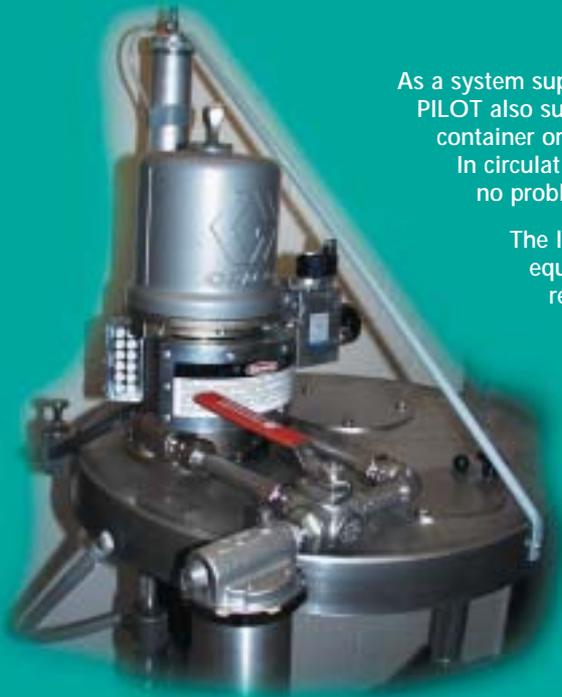
A level indicator ensures that the tank is always refilled in good time. The system also allows the use of additional filters depending on the material properties.



## Type FMB paint tank with agitator, pump, compressed air valve, back-pressure regulator and level sensor



# The right lid for every barrel



As a system supplier for a whole range of container solutions, WALTHER PILOT also supplies the technology for transporting fluids from the original container or tank storage to the container station for further processing. In circulation loop systems, material transport back to the tank is also no problem.

The lids with lifting mechanisms are fitted with the necessary equipment to suit your needs: pumps, agitators, forward and return fittings, material filters, etc.

No aspect of material transport is left unnoticed. For example, castors and lifting systems are available for positioning the original barrels, so that the barrel can be changed easily and safely.

WALTHER PILOT know-how guarantees comprehensive and permanent system solutions.



## The ghostly atmosphere...

in this picture is unavoidable. The valuable chemicals stored in the barrels must at all costs be protected from light and temperature variations. So even our photographer had to use a special filter.

The material is transported to the glass fibre processing station for coloration in 13 different colours. With the specification of developing a fault-free system that required practically no maintenance, WALTHER PILOT was entrusted by ALCATEL Kabel, Mönchengladbach, with the job of designing the appropriate process technology.

The delivery system works round the clock. Only the barrels need to be changed from time to time.

The innovative plant technology helps ALCATEL to achieve a considerable increase in fibre production.

# Level control and measurement

## Process automation – sensible sensors

Many container solutions require process control that is matched to the application. Automation is especially recommended when, for safety reasons, contact between human beings and the material is to be kept to a minimum. Indicator gauges for level, pressure and temperature offer excellent possibilities for this.

For example, the process control is supported by modern level measurement systems to ensure that containers in material circulation loops can be filled without risk to workers or the environment.

A sensor (1) automatically activates the barrel pump when the minimum level is reached. At maximum level, the pump is

switched off. For safety reasons, there is a second sensor (2) as an overflow protection. The operator is required only to change the barrel. This is indicated by a signal sent by a further sensor (3).

To guarantee a maximum of environmental protection and working safety, the

barrel and mixing tank are placed on collecting basins.

The user receives all components from one manufacturer. The high quality individual components are ideally matched to form an integrated system.



Vibrating fork sensor

Capacitive min./max. sensors for continuous measurement and vibrating fork sensors for limit detection are available in various versions.

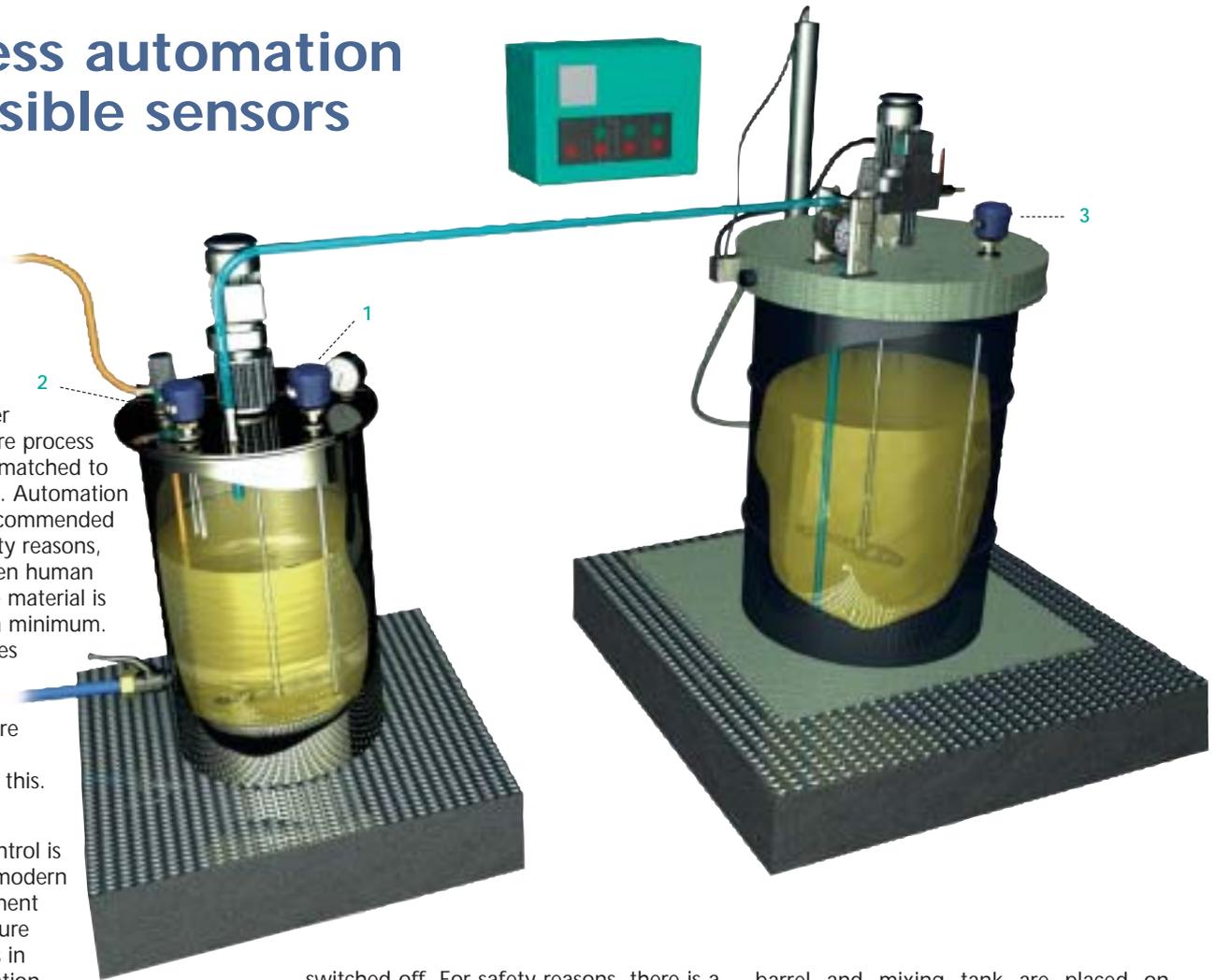
The signals are processed by analogue or digital transducers for each application.



Capacitive sensor

We can also install other technical solutions, e.g. ultrasound systems, to suit your needs.

Conventional systems (optical indicators) are also available.



# WALTHER PILOT



**Plan your material transfer system with us**

**The WALTHER PILOT programme offers all components**

- Vessels (pressurised – vacuum – pressureless)
- Agitators
- Level measurement
- Temperature control
- Hoses for compressed air and material
- Couplings for compressed air and material
- Compressed air supply systems
- Material filters
- Solenoid valves
- Application equipment
- Colour change equipment
- Lifting equipment

## WALTHER PILOT – the systematic programme

- Manual and automatic spray guns
- HVLP spray guns
- Compressed air filters and regulators
- Pressure tanks
- Pressureless containers
- Airless equipment
- Fluid pumps
- Powder coating systems
- Spray booths
- Combined spraying and drying booths
- Ventilation systems



Die Beschichtungs-Experten

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