WALTHER PILOT Spritz- und Lackiersysteme GmbH

Product overview

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WALTHER PILOT Functional description

Vessels and equipment used:

- to store and feed
 - ✓ liquid
 - ✓ viscous media
- for mixing
- for dosing
- color spraying







Whether standard or special model our equipment always provide:

- smooth material inflow no pulsation
- constant material consistency due to agitators
- no skin formation on the surface of the liquid
- no release of gaseous media
- long product lifespan (no wearing parts)
- high dependability



Basic components of standard pressure tank

- I. Feed pipe
- 2. Outlet Ball valve
- 3. Compressed air inlet fittings with safety valve
- 4. Agitator (various)









- 5. Star grips
- 6. Material filler lock
- 7. Impeller

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WALTHER PILOT Small pressure tanks MDG 1, 2, 3, 4



- Standard volume range: I 4 [L]
- Permanent working pressure: 3 [bar] (MDG 4: 4 [bar]) all types are also available with 6 [bar] working pressure
- Material quality: Stainless steel 1.4301 (MDG 4 is deliverable in steel- galvanized-version)
- Agitators: Air-powered agitator (manual agitator is possible for MDG 2, 3 and 4)

WALTHER PILOT — New generation LDG 5, 10, 20



- Standard volume range: 5, 10, 20 [L]
- Permanent working pressure: 6 [bar]
- Material outlet: upper or lower
- According to PED 97/ 23 EG
- Thin-walled pressure vessel made of stainless steel I.4301 (V2A)

- For e.g. water-based paints and dispersion adhesives
- Easy handling using folding star grips closures
- Easy to refill and clean
- LDG 5 and LDG 10 standard with an integrated Inliner



WALTHER PILOT Inliners



Easy Insertion



- Effectively protect LDG against contamination
- Made from thin-layer, durable polypropylene
- Suitable for nearly all solvent-based products
- Electrically conductive and thus applicant for Ex-use
- Inliner are Registered design



Clean Filling



WALTHER PILOT Lightweight MDG 5, 10, 19



- Standard volume range: 5 , 10, 19 [L]
- Maximum operating over pressure: 6 [bar]
- Spray system used for stains, varnishes, separating agents
- MDG 19 has a Visual-Level-Display (optional)
- No agitator assembly possible
- Only suitable for
 - ✓ low-viscosity
 - ✓ highly liquid and
 - ✓ non-settling media





- WALTHER PILOT Standard pressure tanks

- Standard volume range: 8 500 [L]
- Size graduations: 8, 12, 22, 24, 45, 60, 90, 120, 250, 350, 500 [L]
- Standard operating pressure: 6 [bar] and for MDG 8:4 [bar], or optional for higher operating pressure e.g. 10 [bar]
- Material quality: Steel galvanized or Stainless steel 1.4301; or optional 1.4404, 1.4571
- Surface finishing of stainless steel tank is possible (grinding, polishing, electro-polishing)
- Lining: Plastic /Synthetic , e.g. Epoxy or PTFE are possible
- Possible Equipment:
 - Different air-inlet fittings
 - ✓ Manual agitator
 - Pneumatic geared agitator
 - ✓ Electric geared agitator
 - ✓ Level-measurement and control technology
 - ✓ Sight-Glass (with/without illumination)





WALTHER PILOT MDG special systems

Special containers for the laboratories

Especially for use in the lab, containers with hinged screw closure are available to keep opening times to a minimum. In addition, WALTHER-PILOT provides containers suitable for use with hazardous substance canisters. For example, the MDG 3 vessel is particularly designed for use with hazardous substance canisters of I-litre capacity.



Special containers for highly viscous media for the laboratories -

For these applications, only high pressure can help.WALTHER-PILOT also designs and manufactures tanks for the high pressure range (up to 150 bar) conforming to all safety rules.





WALTHER PILOT Heating and Cooling Jacket Tanks

- for optimal processing of temperature-sensitive media
- the conveyed material is heated or cooled by a surrounding flow of heating or cooling fluid. Available with heating/cooling jacket or heating-sleeve/-rod
- additional insulation possible
- insulation matched to the individual application in order to:
 - ✓ protect the technical process
 - ✓ reduce the energy requirement
 - effectively prevent the risk of combustion at high temperatures





WALTHER PILOTExamples of customized solutions

Walther Pilot products are the key components of many high- quality metering and mixing systems including:

- ✓ Polyurethane Production Technology
- ✓ Automotive
- ✓ Pharmaceutical
- ✓ Food Processing
- ✓ Paints and Lacquers
- ✓ Adhesive and Sealants Industry
- Material supply systems



WALTHER PILOTExamples of customized solutions



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WALTHER PILOT Vacuum vessels

- I. Built-in vacuum vessel
 - ✓ galvanized
 - ✓ stainless steel

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2

- 2. Automatic filler valve
- 3. Illuminated Sight-Glass



- Electric agitator with vacuum sealing
- 5. Level monitoring
- 6. Inspection Sight-Glass



WALTHER PILOT Material mixing and storage tanks

- pressureless tanks Type FMB
- used to equip color and material mixing chambers in wide industrial range
- ✓ volume from 35 to 3.000 [L]
- Agitators (various)
- ✓ Thermometer
- ✓ Level control sensor
- ✓ Inlet for automatic filling
- The lid is flanged (and hinged part possible)
- Finish: galvanized or stainless steel (opt. electropolished)
- Inner lining: PTFE or other plastics/synthetics
- Fluid Handling: Pumps of various designs
- Also available with heating/cooling jacket or heating-sleeve















WALTHER PILOT Agitators

Product range

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Applications

- on pressure vessels
- on non-pressurized tanks
- on barrel lids
- hand held on a Hobbock

Type of drive

- air powered geared agitators
- air powered agitators without gears
- electrically powered geared agitators
- electrically powered geared agitators with magnetic clutch
- manual agitator

Protection/ Safety

- explosion protected, according to ATEX (94/9/EC)
 Type- examination tested
- non explosion protected





WALTHER PILOT Agitators

Air powered agitators

Main features

- fully assembled
 - ✓ motor
 - ✓ gears
 - ✓ fitting for the tank lid
 - \checkmark shaft and impeller
- easy regulation of speed and power
- the oil-free air vane motor requires no lubrication
- compact and space-saving design
- different material for components available





Туре 46-810/ 46-820

Power [kW]	0,36	
Rounds per minute [min ⁻¹]	200 300	
Torque [Nm]	16	12
Connection with vessel	Bore ø34,5 [mm]	
Shaft bearings	plain bearing	
Used for vessel volume until [L]	120	
Pressure range [bar abs.]	0,3 - 11	
Sealing element	Shaft seal ring (FKM, opt . FKM/PTFE)	
Number of sealing elements	I (for Vacuum 2)	
Impellers used	Blade impeller	
	Pitched bla	de impeller
	Cup impeller	PILOT Calix
Ex protection	Yes	





Туре 46-730

Power [kW]	0,55
Rounds per minute [min ⁻¹]	300
Torque [Nm]	35
Connection with vessel	Bore ø34,5/52 [mm]
Shaft bearings	Needle roller bearing
Used for vessel volume until [L]	250
Pressure range [bar abs.]	0,3-11
Sealing element	Shaft seal ring (FKM/NBR/PTFE)
Number of sealing elements	I - 3
Impellers used	Pitched blade impeller
	Cup impeller PILOT Calix
Ex Protection	Yes





Туре 46-735

Power [kW]	0,5
Rounds per minute [min ⁻¹]	300
Torque [Nm]	I6 with 30 rpm
Connection with vessel	Bore ø34,5/52 [mm]
Shaft bearings	Needle roller bearing
Used for vessel volume until [L]	250
Pressure range [bar abs.]	0,3 - 11
Sealing element	Shaft seal ring (FKM/NBR/PTFE)
Number of sealing elements	I - 3
Impellers used	Pitched blade impeller
	Cup impeller PILOT Calix





Туре 46-200

Power [kW]	0,16
Rounds per minute [min ⁻¹]	400
Transmission stage	
Connection with vessel	Bore ø34,5 [mm]
Shaft bearings	Ball-bearing
Used for vessel volume until [L]	5
Pressure range [bar abs.]	0,3 - 11
Sealing element	Shaft seal ring (FKM)
Number of sealing elements	
Impellers used	Propeller type impeller





Туре 46-322

Power [kW]	0,7
Rounds per minute [min ⁻¹]	1500
Transmission stage	n.a.
Connection with vessel	Bore ø34,5 [mm]
Shaft bearings	Plain bearing
Used for vessel volume until [L]	1000 (IBC)
Pressure range [bar abs.]	Non pressure
Sealing element	/
Number of sealing elements	/
Impellers used	Propeller type impeller
Ex protection	Yes





Туре 71-81.../-730

	0.2	
Power [kvv]	0,3	0,55
Rounds per minute [min ⁻¹]	200 300	300
Transmission stage		,
Connection with vessel	Bore ø34,5/ 52 [mm]	
Shaft bearings	Ball bearing	
Used for vessel volume until [L]	250	
Pressure range [bar abs.]	0,005 - 11	
Sealing element	Shaft seal ring (FKM/NBR/PTFE)	
Number of sealing elements	2 -	4
Impellers used	Blade ir	npeller
	Pitched blac	de impeller
	Cup impeller	PILOT Calix
Ex protection	Ye	25





Hand-held Type 46-322

Power [kW]	0,7
Rounds per minute [min ⁻¹]	1500
Transmission stage	1
Connection with vessel	1
Shaft bearings	Plain bearing
Used for vessel volume until [L]	/
Pressure range [bar abs.]	Non pressure
Sealing element	/
Number of sealing elements	/
Impellers used	Propeller type impeller
Ex protection	Yes





WALTHER PILOT Agitators

Electrically powered agitators



Main features

- fully assembled
 - ✓ gear motor
 - ✓ coupling
 - \checkmark fitting for the tank lid
 - \checkmark shaft and impeller
- various power outputs available

Standard speed:

0,18 [kW] 0.25 [kW]

0,37 [kW] 0,55 [kW] 0,75 [kW]

0,12 [kW] → 60 [min⁻¹]

100 [min⁻¹]

• other speeds available on request

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different material for components available

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Type 44-220

Power [kW] *	0,12	0,18	0,25	0,37
Rounds per minute [min ⁻¹] *	58	100	100	100
Torque [Nm] *	18,8	17,0	23,6	35,0
Connection with vessel	Bore ø34,5/52 [mm]			ן]
Shaft bearings	Plain bearing, opt. needle-bearing			g
Used for vessel volume until [L]	250 (500)			
Pressure range [bar abs.]	0,3 - 11			
Sealing element	Shaft seal ring (FKM)			
Number of sealing elements	I (for Vacuum 2)			
Impellers used	Blade impeller			
	Pitched blade impeller		ler	
	Grid blade impeller **			**
Ex protection	Y	<i>és</i>	N	lo

* Other speeds and performances available on request

** Not in Ex area permitted





Type 71-220

0,12	0,18	0,25	0,37
58	100	100	100
18,8	17,0	23,6	35,0
Bore ø52 [mm]			
Ball bearing			
250 (500)			
0,005 - 11			
Shaft seal ring (FKM/NBR/PTFE)			
I-4			
Blade impeller			
Pitched blade impeller			ler
Grid blade impeller **			**
Y	'es	N	lo
	0,12 58 18,8 Shaft s	0,12 0,18 58 100 18,8 17,0 Bore ø Ball b 250 0,00 Shaft seal ring (Shaft seal ring (I Blade i Blade i	0,12 0,18 0,25 58 100 100 18,8 17,0 23,6 Bore \varnothing 52 [mm] Ball bearing Ball bearing 250 (500) 0,005 - 11 Shaft seal ring (FKM/NBF I - 4 Blade impeller Original blade impeller Original blade impeller

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* Other speeds and performances available on request

** Not in Ex area permitted



TUDO 61 000



iype 01-000			
Power [kW] *	0,37	0,55	0,75
Rounds per minute [min ⁻¹] *	100	100	100
Torque [Nm] *	~37	~55	~75
Connection with vessel	Bore ø77 [mm]		m]
Shaft bearings	In gearbox		
Used for vessel volume until [L]	1000		
Pressure range [bar abs.]	Non pressure		
Sealing element	1		
Number of sealing elements	1		
Impellers used	Pitched blade impeller		peller
	Grid blade impeller **		ller **
Ex protection	Yes		No

* Other speeds and performances available on request

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** Not in Ex area permitted





With stuffing box (packing seal)		
Power [kW] *	0,37 - 2,2	
Rounds per minute [min ⁻¹] *	30 - 100	
Torque [Nm] *	1	
Connection with vessel	Block flange ø140/160/220 [mm]	
Shaft bearings	Plain bearing	
Used for vessel volume until [L]	2000	
Pressure range [bar abs.]	0,3 - 11	
Sealing element	Packing seal (PTFE/ Graphite)	
Number of sealing elements	1	
Impellers used	Pitched blade impeller	
	Grid blade impeller	
	"Schar" impeller	
	Coil impeller	
Ex protection	No	

* Other speeds and performances available on request





Power [kW] *	0,37 - 0,55		
Rounds per minute [min ⁻¹] *	60 - 80 (dep. on Type)		
orque [Nm] *	1		
Connection with vessel	Block flange øl 90/250 [mm]		
haft bearings	Anti friction bearing		
Jsed for vessel volume until [L]	2000		
Pressure range [bar abs.]	0,005 - 11		
ealing element	Isolation shell		
Number of sealing elements	/		
mpellers used	Pitched blade impeller		
	Grid blade impeller		
x protection	Yes No		

With magnetic clutch

Other speeds and performances available on request





Blade Impeller Blatt- Rührorgan	•
Diameter [mm]	Ø60 - 186
Material	Zinc coated steel; Stainless steel
Number of blades	2
Flow pattern	Radial
Used for	low to medium viscosity fluids; gas- liquid and liquid- liquid dispersion









Schragblatt- Ruhrorgan	
Diameter [mm]	Ø190 - 600
Material	Stainless steel
Number of blades	2
Flow pattern	Axial
Used for	blending, solids suspension, solids incorporation or draw down, gas inducement and heat transfer

Pitched blade Impeller



Crid blada Impollar



Gitterblatt- Rührorgan	
Diameter [mm]	Ø356 - 503
Material	Aluminum
Number of blades	2
Flow pattern	Axial
Used for	blending, solids suspension, solids incorporation or draw down, gas inducement and heat transfer
Ex protection	No







Calix Rührorgan	
Diameter [mm]	Ø100 - 320
Material	Stainless steal
Number of blades	2 or 3
Flow pattern	Mixed
Jsed for	medium to high viscosity fluids; gas- liquid and liquid- liquid dispersion

Cup impollar PIL OT Calix







Propeller Rührorgan		
Diameter [mm]	Ø60 and 140	
Material	Stainless steal	
Number of blades	3	
Flow pattern	Axial	
Used for	blending, solids suspension, solids incorporation or draw down, gas inducement and heat transfer	









Disc flat blade impeller (Rushton) —— Scheiben Rührorgan		
Diameter [mm]	Ø150 - 200	
Material	Stainless steal	
Number of blades	6	
Flow pattern	Radial	
Used for	low to medium viscosity fluids; gas- liquid and liquid- liquid dispersion	









Folding impeller		
Diameter [mm]	Ø220/140 Ø335/140	
Material	Stainless steal	
Number of blades	4	
Flow pattern	Radial	
Used for	low to medium viscosity fluids;	
	liquid- liquid dispersion	







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GmbH

150 9001



- ✓ EN 9001 Quality Standard
 - Pressure Equipment Directive 97/23/EC (various Modules)
 - ✓ AD 2000
 - ✓ US ASME Code (U-Stamp)
 - ✓ Chinese safety regulations
 - Directive 94/9 / EC (ATEX)



WALTHER PILOT -

Deeper overview

Stay competitive

Meet requirements

Engineering skills

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WALTHER PILOT The future

If you want to find the secrets of the universe, think in terms of energy, frequency and vibration. - Nikola Tesla -

If you want to find the secrets of the mixing process, think in terms of CFD.





Optimization of agitators and impellers -

Increase in production and control quality

Meeting individual requirements of our customers

Next level of engineering







WALTHER PILOTComputational Fluid Dynamics

CFD reduces scale-up problems

CFD can be used to complement physical modeling

CFD helps understanding the root cause of a problem

Many "what if" scenarios can be analyzed

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Vielen Dank für Ihre Aufmerksamkeit ——Thank you for your attention——

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