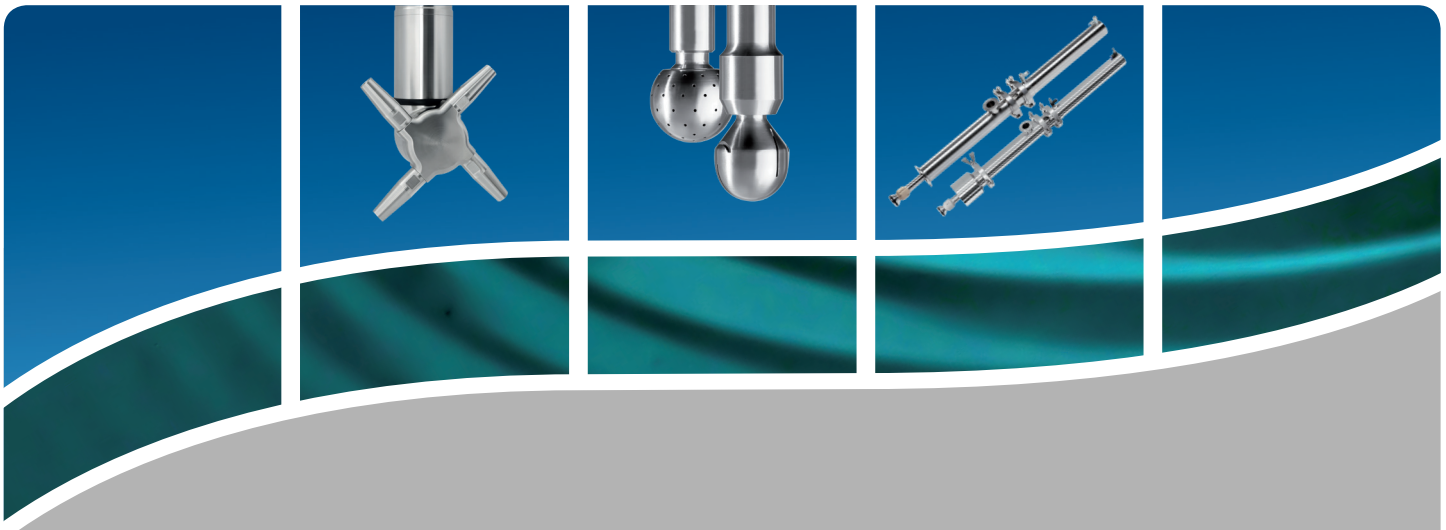
AWH
NEUMO Ehrenberg Group

Cleaning Technology

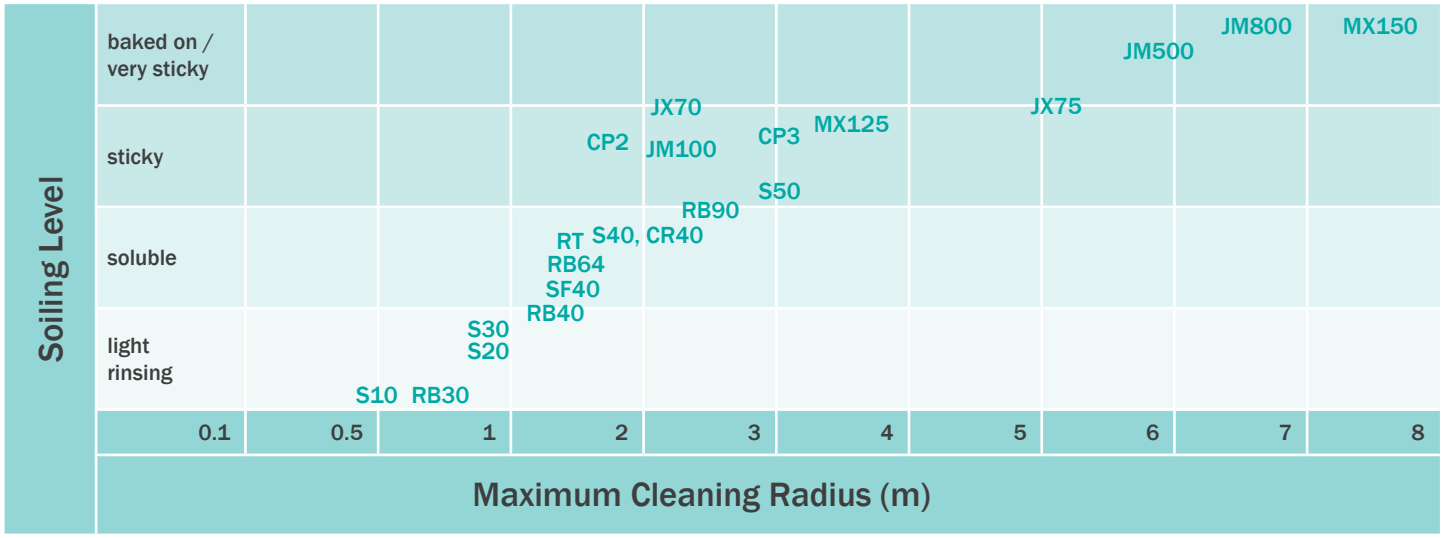


Certificates and Approvals

	TANKO-MX	TANKO-JM	TANKO-JX	TANKO-CP	TANKO-CR	TANKO-S	TANKO-RB	Statik B	TANKO-RT	TANKO-SF	TANKO-RTF	CIPGuard
3.1	X	X	X	X		X	X	X	X	X	X	X
ATEX			X			X	X		X			
3-A Sanitary Standard										X		
FDA	X	X	X	X	X	not required			X	X	X	X

Information Requirements for Choosing a Cleaning Device

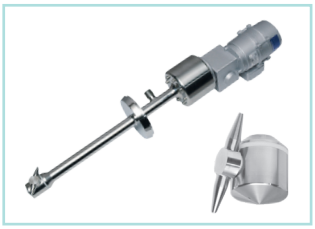
Vessel characteristics (height, length, diameter)
Vessel internals (mixers, hoppers, etc.)
Properties of the product in the vessel to be cleaned
CIP fluid and CIP cycle
Flow rate and pressure at point of use
Pressurised or vacuumed vessel



Overview AWH Cleaning Technology

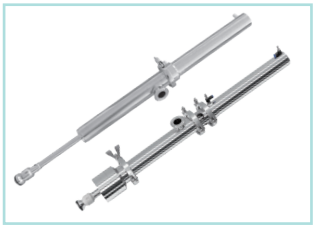
TANKO® MX Series –Jet Cleaner with internal Gear

TANKO® JM Series – Jet Cleaner with external Gear



TANKO® JX Series –Jet Cleaner with external Actuator

TANKO® CP Series –Jet Cleaner with 360° Nozzle Rotation



TANKO® RT/-RTS/-RTF Retractor

TANKO® S Series – Spate Cleaner with rotating Spray Head

TANKO® CR40 – Spate Cleaner made of modified PTFE

TANKO® RB Series – rotating Spray Ball

Static B – static Spray Ball

TANKO® SF40 Spate Cleaner

TANKO® RPB35 – Spray Ball

TANKO® AN – Weldon Nipple

TANKO® R64T – Tank Cleaning Device

JM-C1 – Tank Cleaning Trolly

CIPGuard (TCG-ZR) – Sensor for Monitoring

Overview AWH Cleaning Technology

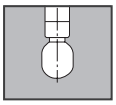
Jet Cleaner with internal Gear

TANKO® MX Series

The design-protected TANKO® MX Series are medium driven jet cleaners with a controlled constant rotation. TANKO® MX are used in a wide range of industrial and hygienic application where vessels and tanks need to be cleaned with high impact. The TANKO® MX range have plain bearings and epicyclic gearing. They have been designed to produce high impact, repeatable and efficient cleaning with impressively low consuption figures.

Volume flow rate: 5.2 - 18.4 m³/h / 87 - 307 l/min / 23 - 81 gpm (US)*
Operating pressure: Cleaning medium: 3 - 8 bar / 43.5 - 116 psi
Range: Cleaning radius: max. 7.8 m / 25.59 ft
Wetting radius: max. 10.5 m / 34.45 ft

* depending on model and cleaning medium



360°

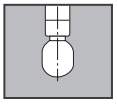
Jet Cleaner with external Gear

TANKO® JM Series

The devices are used in a wide range of industrial applications where vessels and tanks need to be power-cleaned. The TANKO® JM series has sturdy, externally mounted bevel gear unit. This makes it easy for the user to check the condition of the bevel gears and clean them if necessary. It has been designed to produce the best cleaning results. It is self-cleaning, works with high impact.

Volume flow rate: 2.2 - 29.4 m³/h / 36.7 - 490 l/min / 10 - 129 gpm (US)*
Operating pressure: Cleaning medium: 3 - 20 bar / 43.5 - 290 psi
Range: Cleaning radius: max. 2.3 - 6.8 m / 7.6 - 22.3 ft
Wetting radius: max. 4.5 - 11.5 m / 14.8 - 37.7 ft

* depending on model and cleaning medium



360°

TANKO® MX125 and TANKO® JM Series

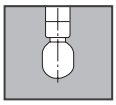
Jet Cleaner with external Actuator

TANKO® JX Series

The TANKO® JX series combines strong cleaning power with very economic use of the cleaning medium. The electric motor means that no cleaning medium is needed for driving the rotation. This allows the rotation and the speed of rotation to be easily adjusted to suit the cleaning requirements.

The nozzle geometry determines the cleaning medium throughput, the range of the system and thus the possible cleaning power. These system allow the optimum cleaning force to be applied to the surface to be cleaned.

Volume flow rate: 0.2 - 7.2 m³/h / 3.3 - 120 l/min / 1 - 32 gpm (US)
Operating pressure: Cleaning medium: 2 - 20 bar / 29 - 290 psi
Range: Cleaning radius: max. 2.1 - 5 m / 6.9 - 16.4 ft
Wetting radius: max. 4.3 - 6 m / 14.1 - 16.7 ft



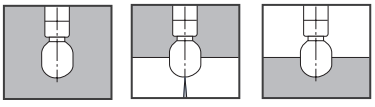
360 °

Slowly rotating Jet Cleaner

TANKO® CP Series

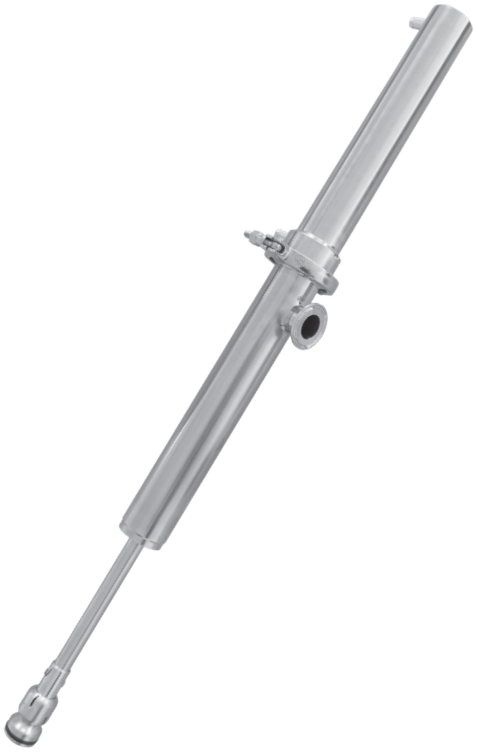
With its slow and even rotation and strong impact, the TANKO® CP2S and TANKO® CP3 are suitable for cleaning vessels with strongly adhesive contents. The devices are a plain bearing system with a simple structure containing few moving parts. With its low servicing requirements, the TANKO® CP series provides a compact and reliable solution for cleaning tasks with different cleaning medium and a large temperature range.

Volume flow rate: 2.5 - 12.7 m³/h / 41.7 - 211.7 l/min / 11 - 55.9 gpm (US)
Operating pressure: Cleaning medium: 3 - 12 bar / 43.5 - 174 psi
Range: Cleaning radius: max. 2 - 3 m / 6.6 - 9.8 ft
Wetting radius: max. 2.9 - 4.7 m / 9.5 - 15.4ft



360 ° *180 °* ▲ *180 °* ▼

TANKO® JX Series and TANKO® CP Series



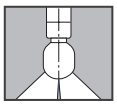
Dynamic Retractor

TANKO® RT /-RTS

The TANKO® RT and TANKO® RTS have been conceived for use in highly sterile processes. Extension into the cleaning position and retraction of the cleaning head into the retractor housing are both performed pneumatically. The rotating spray head of the TANKO® RT runs on ball bearings lubricated by the cleaning medium. The TANKO® RTS is a retractor equipped with a static spray head. A special ATEX version of the retractor is available for ATEX applications.

Volume flow rate: 2 - 6.5 m³/h / 33.3 - 108.3 l/min / 8.8 - 28.6 gmp (US) *
Operating pressure: Cleaning medium: 1 - 8 bar / 14.5 - 116 psi *
Pneumatic: min. 5 bar / 72.5 psi, max. 8 bar / 116 psi
Range: Cleaning radius: max. 1.6 m / 5.3 ft
Wetting radius: max. 2.5 m / 8.2 ft

* depending on model and cleaning medium
The technical data of the ATEX units can differ.



270° ↑

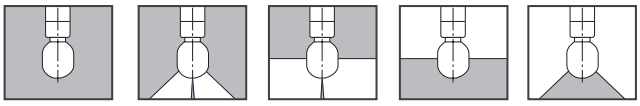
Spate Cleaner with rotating Spray Head

TANKO® S Series

Strong impact, high cleaning force at low volumetric flows and low pressures make it easier to optimize the cleaning process and provide a more efficient alternative to static spray balls. The spate cleaners are available in 5 different sizes, with different materials and connections, and also with ATEX certification if required.

Volume flow rate: 0.25 - 18 m³/h / 4.2 - 300 l/min / 1 - 79 gpm (US) *
Operating pressure: cleansing medium: 1.5 - 3 bar / 22 - 43.5 psi *
Range: cleaning radius: 0.1 - 3.2 m / 0,3 - 10.5 ft *
wetting radius: 0.1 - 4.2 m / 0.3 - 13.8 ft *

* depending on model and cleaning medium
The technical data of the ATEX units can differ.



360° *270° ↑* *180° ↑* *180° ↓* *90° ↓*

TANKO® RT/-RTS and TANKO® S Series

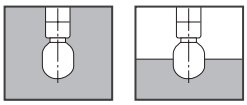
Spate Cleaner made of modified PTFE

TANKO® CR40

The TANKO® CR has been developed for maximum chemical resistance and highest hygienic requirements. The TANKO® CR series of spate cleaners rotate in a slow and defined manner on a maintenance-free hydrodynamic plain bearing. This constantly flushed bearing allows operation in the widest variety of installation angles, resulting in a sturdy device with a long service life. The TANKO® CR is also very well suited for SIP sterilization of the vessel with steam.

Volume flow rate: 2.2 - 4.7 m³/h / 36.7 - 78.3 l/min / 9.7 - 20.7 gpm (US)*
Operating pressure: Cleaning medium: 1.5 - 5 bar / 22 - 73 psi *
Range: Cleaning radius: max. 2 m / 6.6 ft *
Wetting radius: max. 2.7 m / 8.9 ft *

* depending on model and cleaning medium



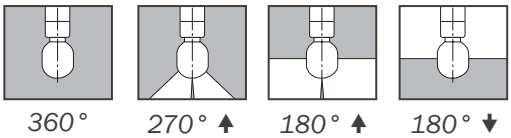
Rotating Spray Ball

TANKO® RB Series

The TANKO® RB is a rotating spray head with drilled circular spray openings. Designed as a rotating unit to quickly wet the vessel walls. Short cleaning periods can be achieved depending on the application. The basic function of the device is retained even if the rotation fails. If individual spray perforations become blocked, the rotation of the device allows the remaining spray perforation to compensate for this. This ensures continued complete wetting of the tank walls.

Volume flow rate: 2.4 - 28.9 m³/h / 40 - 481.7 l/min / 10.6 - 127.2 gpm (US) *
Operating pressure: 1.5 - 3 bar / 22 - 43.5 psi *
Range: Cleaning radius: 0.75 - 2.5 m / 2.5 - 8.2 ft

* depending on model and cleaning medium
The technical data of the ATEX units can differ.



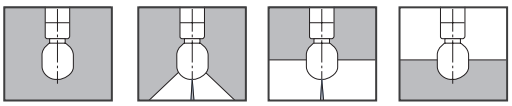
Static Spray Heads

Static B

Static spray heads are a proven accessory for cleaning tanks and vessels. The typical area of application is for simple cleaning tasks in the low pressure range between 0.5 and 2.5 bar. It should be noted that the use of a static spray head is often based on the acquisition costs.

Volume flow rate: 0.6 - 78.7 m³/h / 10 - 1311.7 l/min / 2.6 - 346.5 gpm (US)*
Operating pressure: Cleaning medium: 0.5 - 2.5 bar / 7.3 - 36.3 psi *
Range: Cleaning radius: max. 0.25 - 3 m / 0.8 - 9.8 ft *

* depending on model and cleaning medium



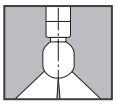
Spate Cleaner with rotating Spray Head

TANKO® SF40

The TANKO® SF40 is an hygienic cleaning device of the 'Rotary spray head' type intended for permanent installation in a vessel. The device is designed in such a way that it is able to clean itself. The rotating spray head rotates on a hydrodynamic bearing during the cleaning process. The device is lubricated by the cleaning medium. No oils, greases or other lubricants are used.

Volume flow rate: 2.6 - 6.2 m³/h / 43.3 - 103.3 l/min / 11.4 - 27.3 gpm (US) *
Operating pressure: Cleansing medium: 1 - 3 bar / 14.5 - 43.5 psi *
Range: Cleaning radius: max. 1.5 m / 4.9 ft
Wetting radius: max. 2 m / 6.6 ft

*depending on model and cleaning medium



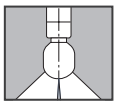
Dynamic Retractor

TANKO® RTF

The TANKO® RTF is a retractor, extension into the cleaning position and retraction of the cleaning head into the retractor housing are both performed pneumatically. A modified version of the TANKO® SF40 hydrodynamic spray head is used here. The TANKO® RTF is available with stroke lengths of 100, 150, 250 and 500 mm and the head type “WF”. Due to the special form, the TANKO® RTF is approx. 50 mm longer than the TANKO® RT.

Volume flow rate: 3.3 - 5.5 m³/h / 55 - 91.7 l/min / 14.5 - 24.2 gpm (US)*
Operating pressure: Cleaning medium: 1 - 3 bar / 14.5 - 43.5 psi *
Pneumatic: min. 5 bar / 72.5 psi, max. 8 bar / 116 psi
Range: Cleaning radius: max. 1.5 m / 4.9 ft
Wetting radius: max. 2 m / 6.6 ft

* depending on model and cleaning medium



270°

Spray Ball

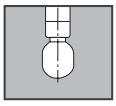
TANKO® RPB35

An effective system for reducing spray shadows! A connection fitting and surge sources (TANKO® S) installed at different heights in a downpipe reduce the spray shadows to a minimum.

A “with DP flushing” RPB variant reinforced with connection/downpipe cleaning is also available in addition to the 360° Standard version. Further spray angles and product variants are available on request.

Volume flow rate: at recommended pressure:
1.2 - 2.5 m³/h / 20 - 41.7 l/min / 5.3 - 11 gpm (US) *
Operating pressure: max. 3 bar / 43.5 psi *

* depending on model and cleaning medium



360°

Weldon Nipple and Downpipes

TANKO® AN

Orbital welds are surely the best solution from a hygiene perspective. Attention must be paid to problems in cleaning the downpipe and especially longer downpipes require special solutions.

The weldon adapter shown in the illustration, in conjunction with a clean weld, is a good solution to this problem. The gap between the thread and the cleaning device is arranged horizontally. Outflowing cleaning medium cannot accumulate as droplets at this position but rather flow cleanly away over this edge. Various different versions for the combinations of pipe diameter and cleaning device are available. A selection can be made between the materials 1.4404 (316L), 1.4571 (316Ti), 1.4435 (316) and various Hastelloy variants if necessary.

This makes it easy to reduce contamination at the connection points of the cleaning device. The cleaning process can also be easily optimized when changing the downpipe geometries (installation dimensions).

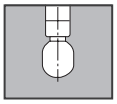
Tank Cleaning Device

TANKO® R64T

The TANKO® R64T rotates on a vertical axis. In conjunction with two TANKO® S30 or TANKO® RB30 devices, even hard-to-reach areas can be optimally cleaned.

Volume flow rate: 2 x TANKO® S30 360° BSP: 4.9 - 7.2 m³/h / 81.7 - 120 l /min / 21.6 - 31.7 gpm (US) *
Operating pressure: 1.5 - 7 bar / 21.8 - 101.5 psi (depending on the built-in cleaning device)*
Range: Cleaning radius and wetting radius depend on the version.

* depending on model and cleaning medium
The technical data of the ATEX units can differ.



360°

Tank Cleaning Trolly

JM-C1

The tank cleaning trolly allows mobile use of cleaning devices in a tank. The scope of delivery does not include the cleaning device.

Materials:	1.4404 (316L)
Reduction piece:	1.4436
Locking pin:	1.4430
Wheels:	PP, FDA complaint
Supply connection:	DN50, male fitting acc. DIN 11851
Jet cleaner connection:	1 1/2" BSP
Surface:	metal-bright or hand polished
Weight:	12.5 kg
Can be used for:	TANKO® JM500, TANKO® RB90, TANKO® S50

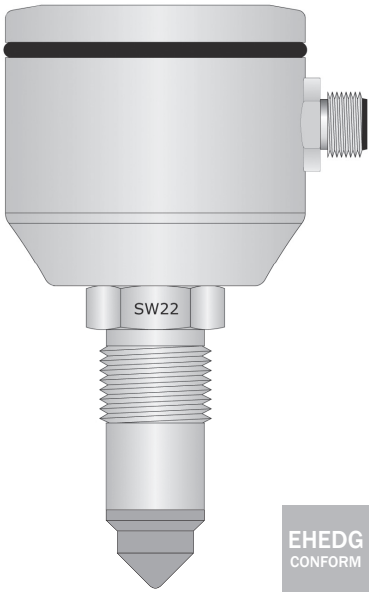
Sensor for Monitoring

CIPGuard (TCG-ZR)

Sensor for monitoring slow-rotating 360° jet cleaners in vessels and tanks. The sensors is installed centrally, preferably on the roof of the tank, and is then integrated into the existing PLC system or queried in a mobile manner via a PC. The AWH CIPGuard is distinguished by a sturdy and compact design providing reliable real-time representation of the rotation of jet cleaners. The acquired measurements can be evaluated by a PLC via the digital PNP output signal (24 VDC).

The necessary software can be downloaded free of charge from http://www.awh.eu. The software displays the signal as three curves.

Operating pressure:	in vessel: max. 10 bar / 145 psi
Ambient temperature:	-10 to +60 °C / 14 to 140 °F
Storage temperature:	-20 to +70 °C / -4 to 158 °F



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