

VARIPURE Rotating Cleaner

for tank and vessel cleaning



Process Equipment

GEA Tuchenhagen

VARIPURE rotating Cleaner

GEA Tuchenhagen offers a comprehensive product range for almost all cleaning tasks.

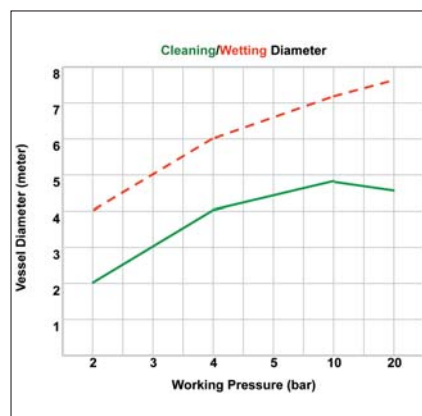
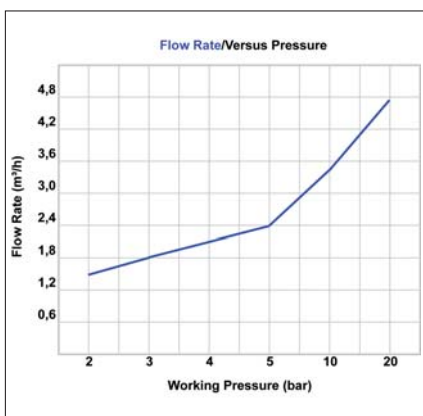
All VARIPURE cleaner are to the latest state-of-the-art designed and manufactured. The devices meet your high hygiene claims considered by the geometrical shape and the best surface texture. These parameters proven best meet the requirements to use our cleaners in the brewing and beverage industries, in the cosmetic and pharmaceutical, chemical as well as in the biotechnology industry.

Sanitor ... compact, ultra-hygienic



- **Slow, constant rotation**
 - **Ball bearing free-increased service life**
 - **Large operating pressure range**
 - **Hydrodynamic bearing**
- FDA conform and ATEX exempt
 - Maintenance-free and durable
 - Working pressure 2 - 20 bar
 - Cleaning diameter up to 4.8 m
 - Flow rate 1.5 – 4.8 m³/h
 - Spray pattern 360°
 - Operation temperature 95 °C max.
 - Ambient temperature 140 °C max.
 - SIP through the nozzle possible
 - Insertion Ø 32 mm min.
 - Materials: Stainless Steel 316L (1.4404)
 - Pipe connection: 3/8" BSP / NPT Female
 - Preferred mounting position: vertical down

FDA conform and ATEX exempt

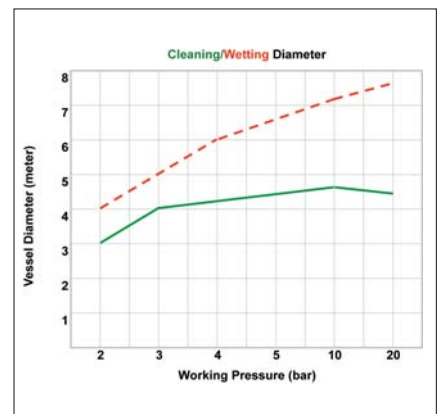
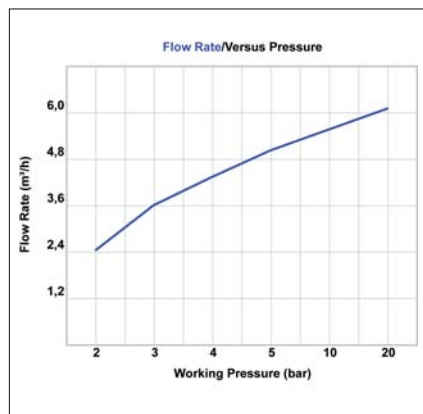


Turbo SSB ... constant rotation speed at different pressure

- Slow, constant rotation
 - Ball bearing free-increased service life
 - Economic flow rates
 - High efficiency fan jets
- FDA conform or ATEX exempt
 - Working pressure 2 - 20 bar
 - Cleaning diameter up to 4.6 m
 - Flow rate 2.4 – 6 m³/h
 - Spray pattern 360°, optional 180°
 - Operation temperature 95 °C max.
 - Ambient temperature 140 °C max.
 - SIP through the nozzle possible
 - Insertion Ø 50 mm min.
 - Materials:
Stainless Steel 316L (1.4404), P-PTFE or C-PTFE
 - Pipe connection:
3/4" BSP / NPT Female, optional Pin Fix
- Preferred mounting position: vertical down



ATEX exempt



VARIPURE rotating Cleaners

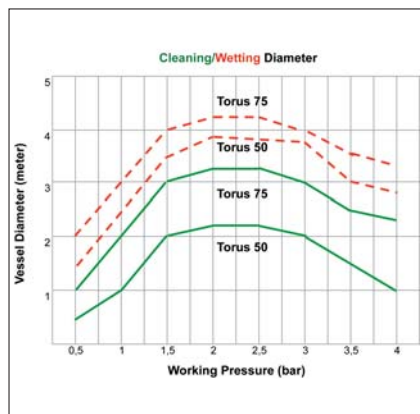
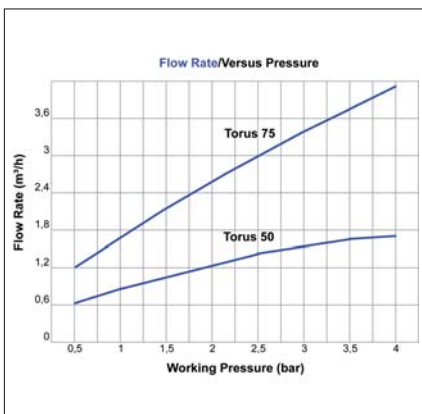
Torus 50 / 75 ... ideal for low pressure applications with small amounts of cleaning agents



- Hygienic design
- Economic flow rates
- Ball bearing free-increased service life
- Low operating pressure

- FDA conform or ATEX exempt
 - Versatile range of applications
 - Pressure 0.5 - 4 bar
 - Cleaning diameter up to 3.2 m
 - Flow rate 0.5 – 3,9 m³/h
 - Spray pattern 360°, optional 180°
 - Operation temperature 95 °C max.
 - Ambient temperature 140 °C max.
 - Insertion Ø 42 mm or 52 mm min.
 - Materials:
Stainless Steel 316L (1.4404),
PTFE or C-PTFE, optional Hastelloy
 - Option: CHEMITORUS complete PTFE
or C-PTFE
 - Pipe connection: 3/8" resp. 1/2" BSP
/NPT Female, optional Pin Fix
- Preferred mounting position: any

ATEX exempt



Torus 100 ... ideal for low pressure applications with small amounts of cleaning agents

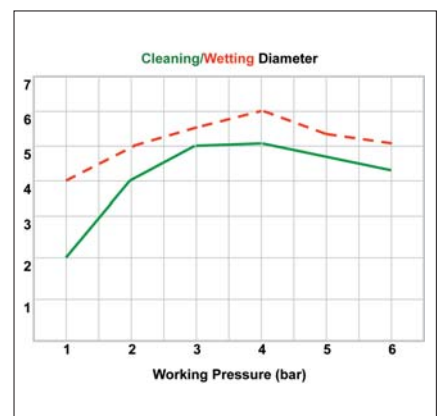
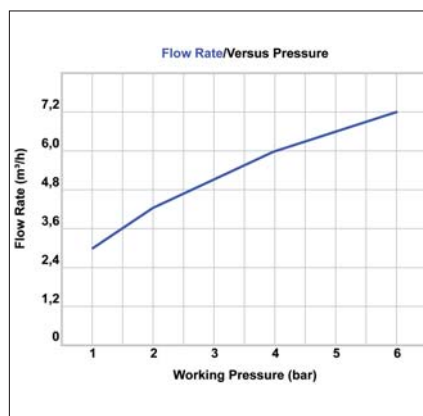
- Hygienic design
- Economic flow rates
- Ball bearing free-increased service life
- Powerful fan jets

- FDA conform or ATEX exempt
- Versatile range of applications
- Working Pressure 1 - 6 bar
- Cleaning diameter up to 5 m
- Flow rate 3 – 7.2 m³/h
- Spray pattern 360°, optional 180°
- Operation temperature 95 °C max.
- Ambient temperature 140 °C max.
- Insertion Ø 70 mm min.
- Materials:
Stainless Steel 316L (1.4404),
PTFE or C-PTFE, optional Hastelloy
- Option: CHEMITORUS complete PTFE
or C-PTFE
- Pipe connection:
Pin Fix to suit 1" OD tube (25.4x1.6 mm)

Preferred mounting position: any



ATEX exempt



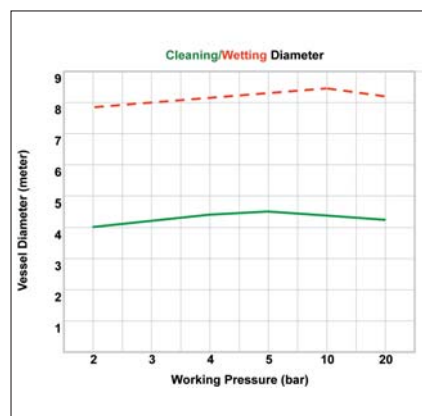
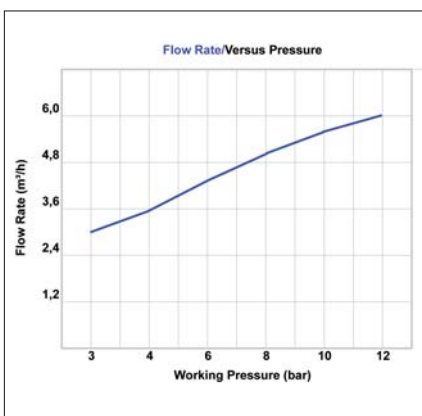
VARIPURE rotating Cleaners

Troll Ball 2 Zoll ... the economic alternative to the spray ball



- Economic flow rates
 - Ball bearing free-increased service life
 - Slow, constant rotation
 - Powerful round jets
- FDA conform or ATEX exempt
 - Working pressure 3 – 12 bar
 - Cleaning diameter up to 4.4 m
 - Flow rate 3 – 6 m³/h
 - Spray pattern 360°, optional 180°
 - Operation temperature 120 °C max.
 - Ambient temperature 140 °C max.
 - Insertion Ø 60 mm min.
 - Materials:
Stainless Steel 316L (1.4404), PTFE or C-PTFE
 - Pipe connection:
3/4" BSP / NPT Female
 - Weight 1 kg
- Preferred mounting position: vertical down

ATEX exempt

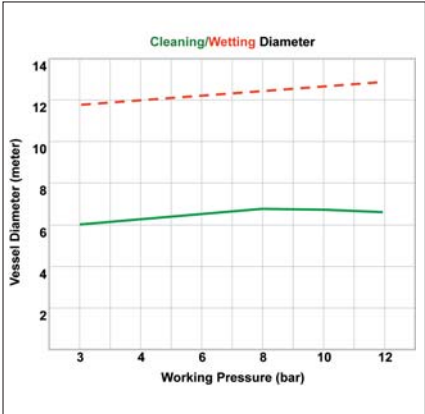
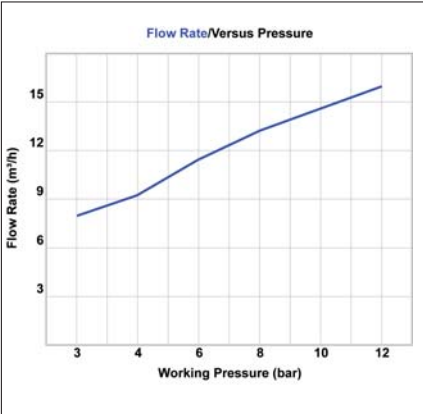


Troll Ball 3 Zoll ... ideal for cleaning at high temperatures

- Economic flow rates
 - Ball bearing free-increased service life
 - Slow, constant rotation
 - Powerful round jets
- FDA conform or ATEX exempt
 - Working pressure 3 – 12 bar
 - Cleaning diameter up to 6.4 m
 - Flow rate 8.1 – 16.2 m³/h
 - Spray pattern 360°, optional 180°
 - Operation temperature 120 °C max.
 - Ambient temperature 140 °C, max.
 - Insertion Ø 90 mm min.
 - Materials:
Stainless Steel 316L (1.4404), PTFE or C-PTFE
 - Pipe connection:
1 1/2" BSP / NPT Female
 - Weight 2.3 kg
- Preferred mounting position: vertical down



ATEX exempt



VARIPURE rotating Cleaners

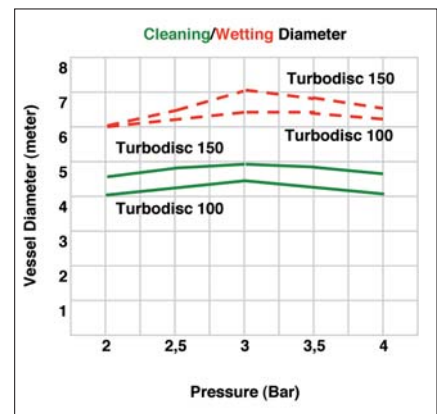
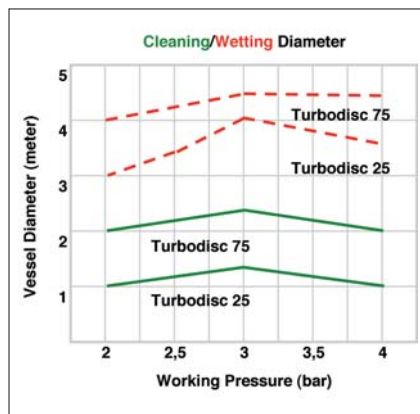
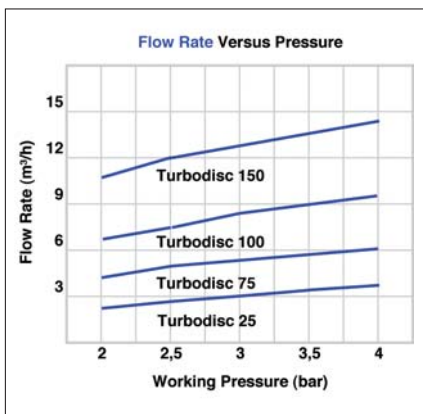


Turbodisc TD25 / TD75 / TD100 / TD150 ... one of the strongest in its class



- Economic flow rates
 - Ball bearing free-increased service life
 - Maintenance free
 - Hydrodynamic bearing
 - Insensitive to blockage
- FDA conform or ATEX exempt
 - Working pressure 2 - 4 bar
 - Cleaning diameter up to 4.8 m
 - Flow rate 2.7 - 14.7 m³/h
 - Spray pattern 360°, optional 180°
 - Operation temperature 95 °C max.
 - Ambient temperature 140 °C max.
 - SIP through the nozzle possible
 - Insertion Ø 31 mm, 41 mm, 55 mm, 75 mm
 - Materials:
Stainless Steel 316L (1.4404), PTFE or C-PTFE, optional Hastelloy
 - Pipe connection:
1/4" BSP / NPT Male,
3/4", 1", 1 1/2" BSP / NPT Female,
optional Pin Fix
- Prefered mounting position: any

ATEX exempt



Rotating Jet Cleaner Type 2E for hanging in tanks ... in levels circulating fan jets

- Interval flushing by slowly rotating fan jets
 - Multiple increased swell compared with a spray ball
 - Various spray pattern by different nozzle arrangements
 - Driven by liquid flow gear
- Rotation Monitoring by Proximity Switch (optional)
 - Working pressure 2.3 – 4.3 bar
 - Flow rate 7 – 29 m³/h
 - Cleaning diameter 2 – 10 m
 - Operating temperature 80 °C max, optional 100 °C
 - Ambient temperature 130 °C max. (with PTFE design)
 - Insertion Ø 100 mm min.
 - Materials:
Stainless steel 1.4571/ PP at 80 °C
Stainless steel 1.4571/ PTFE at 100 °C
 - Various opportunities for pressure tank connection
- Preferred mounting position: vertical down



Type	No. of nozzles	Flow rate m ³ /h	Pressure bar	1/min	Spraying circle dia. m
A	1	13 – 14	2.7	8 – 12	4
B	2	23 – 24	3.7	4 – 6	7
B1	2	18 – 19	3.0	3 – 4	6
C1	2	23 – 24	3.7	4 – 6	10
C2	3	28 – 29	4.3	5 – 8	10
C4	3	24 – 25	3.9	5 – 7	6
D1	2	24 – 25	3.8	4 – 6	4.2
D2	2	14 – 15	2.8	3 – 4	3.8
D3	2	19 – 20	3.4	4 – 5	4
E	2	22 – 23	3.6	4 – 6	8
E1	2	23 – 24	3.7	4 – 6	8.5
F2	3	17 – 18	2.8	3 – 5	3.5
F3	3	20 – 21	3.2	3 – 5	4
F4	3	20 – 21	3.2	4 – 6	4
F5	3	11 – 12	2.6	6 – 10	3
F6	3	7 – 8	2.3	4 – 6	2
F8	3	11 – 12	2.6	6 – 10	3

VARIPURE rotating Cleaners

Rotating Jet Cleaner, Type 2B ... to be placed into the tank



- Interval flushing by slowly rotating fan jets
 - Multiple increased swell compared with a spray ball
 - Various spray pattern by different nozzle arrangements
 - Driven by liquid flow gear
- Rotation Monitoring by Proximity Switch (optional)
 - Working pressure 2.3 – 3.2 bar
 - Flow rate 6 – 6 m³/h
 - Cleaning diameter 2 – 10 m
 - Operating temperature 80 °C max, optional 100 °C
 - Ambient temperature 130 °C max. (with PTFE design)
 - Installation sleeve 440 mm suitable for oval manholes 330/440mm
 - Materials:
 - Stainless steel 1.4571/ PP at 80 °C
 - Stainless steel 1.4571/ PTFE at 100 °C
 - Various opportunities for pressure tank connection
- Prefered mounting position: vertical up

Type	No. of nozzles	Flow rate m ³ /h	Pressure bar	1/min	Spraying circle dia. m
A	1	13 – 14	2.7	8 – 12	4
G	1	10 – 11	2.3	7 – 10	3
H	2	21 – 22	3.2	4 – 6	3
M	1	11 – 12	2.4	7 – 10	3 – 4
N1	2	21 – 22	3.2	4 – 6	6
N2	2	21 – 22	3.2	4 – 6	6

Monitoring sensor SMW 100 ... unique in its function

Monitoring sensor for jet detection at rotary cleaning devices

- Aseptic instrumentation
 - Elastomer free sealing
 - Product wetted parts in Peek
 - FDA/ EHDG- conform
-
- Welding sleeve system GEA Tuchenhagen
 - Housing in 1.4305
 - Supply voltage 18 ... 32 VDC
 - Power requirement < 20 mA
 - Output signal active 50 mA max.
 - Switch on delay < 0,3 s
 - Response time < 75 ms
 - Rated temperature 25°C
 - Head interior temperature 70 °C max.
 - Ambient temperature -10 - + 70 °C
 - Protection class IP 65 / 67
 - Working pressure max. 10 bar max.
 - Medium temperature durable 0 ... +100 °C
 - CIP-/ SIP – cleaning 0 ... 150 °C (max. 30 min.)

Use in:

- Water and water-based cleaning media
- Kinematic viscosity $1.004 \times 10^{-6} \text{ m}^2/\text{s}$
- Conductivity 0.05 S/m





Process Equipment

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