

# Lineardekanter<sup>®</sup>

G.A.A.-Lineardekanter<sup>®</sup> for the clear water discharge of SBR-tanks  
with discharge quantities between 60 m<sup>3</sup>/h and 1,400 m<sup>3</sup>/h



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## General Information

A large variety of mechanisms is available for the clear water draw-off in SBR-treatment plants.

Apart from the reliable separation of sludge and floating solids from the clean water phase when decanting the most important criterion for a plant operator is safety and maintenance-free operation.

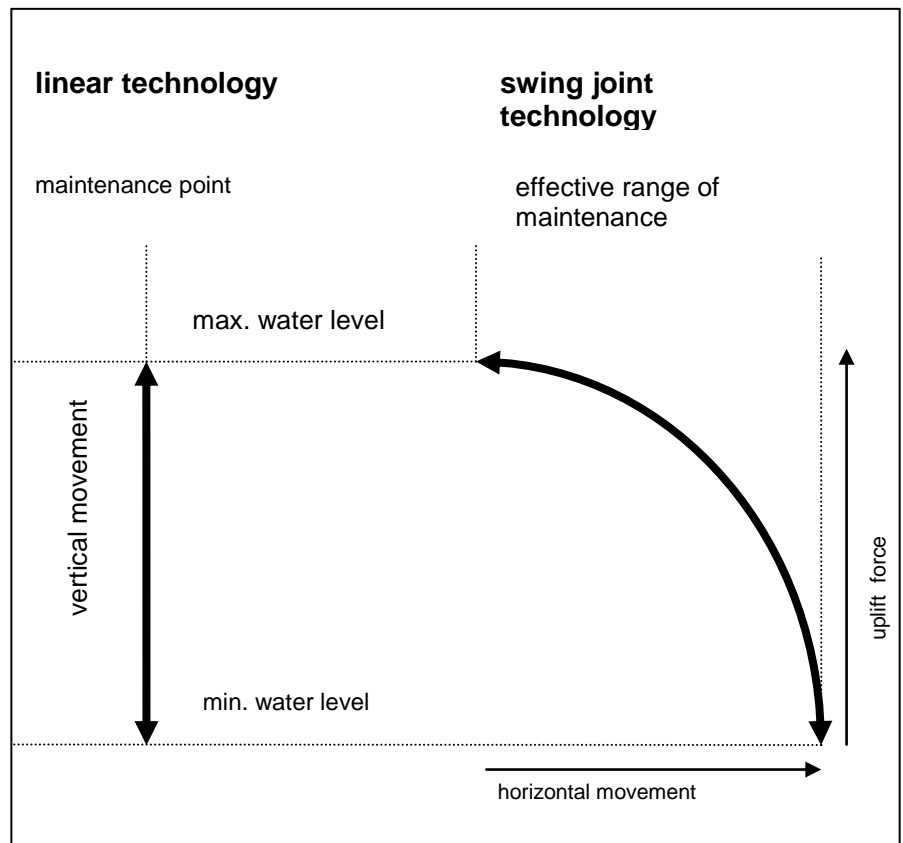
We offer an extensive assortment of clean water discharger models for numerous applications.

On the base of our long-standing experience in SBR-technology the clean water draw off - the **G.A.A.-Lineardekanter**<sup>®</sup> - is optimized in respect to energy consumption, operation security, discharge behavior and investment costs. Aside a reliable separation of sludge and floating solids from the clear water phase, the **G.A.A.-Lineardekanter**<sup>®</sup> offers the advantages of high operational reliability and maintenance-free operation.

The **G.A.A.-Lineardekanter**<sup>®</sup> has proven its effectiveness and reliability in numerous SBR-treatment plants since 1996. The optimized and standardized technology implemented here ensures long-term operational reliability.

## Telescope Technology

The often-applied swing joint technology bears two essential disadvantages for the operator. First is the uplift force occurring when the diagonally fixed discharge pipes are partially or even completely empty. This upward force leads to an unsteadiness of the discharge behavior, which in turn leads to inefficient operation, and even a possible operational stop of the concerned reactor. The second disadvantage is the necessary horizontal movement in correlation with the water level fluctuations.



This essential movement can amount to several meters. Even though this does not have a

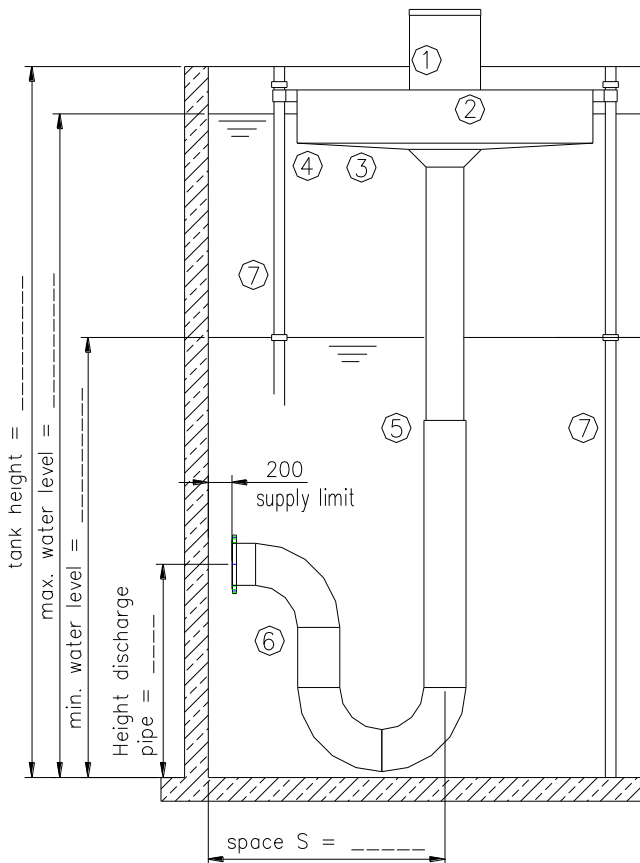
vital effect on the operation, it does however affect the investment costs for the necessary maintenance.

Water level fluctuations are purely vertical movements. So what is more obvious than to follow this movement? Our **linear technology** considers this aspect. Thanks to the specially developed construction no uplifting forces occur, as no horizontal movement is necessary.

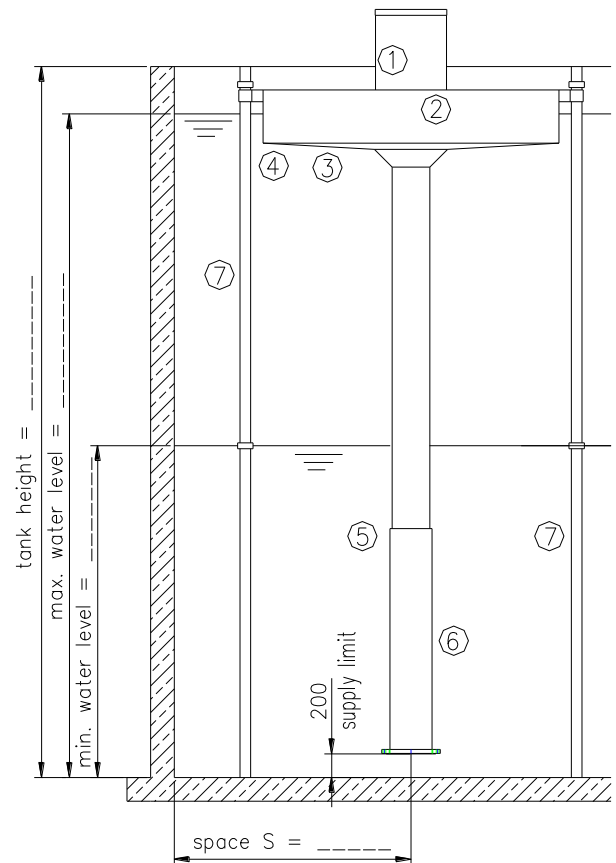
**Linear technology** reduces the necessary movement to the essential. Not having to cover a vertical movement reduces the investment costs for maintenance.

### Description Lineardekanter®

#### discharge through tank wall



#### discharge through tank sole



- 1) drive unit
- 2) base unit
- 3) dynamic discharge

- 4) scumboard
- 5) G.A.A.-Teleskop

- 6) discharge
- 7) guide tube

### Base and Drive Unit

The base is a floating, unsinkable unit with a PE-floater, a stainless steel shell and a flanged drive unit with actuator.

### Scumboard

The scumboard has a submergence of 200 to 300 mm preventing floating solids to drift off.



### Dynamic Discharge

When open, the discharge unit provides a regular, spherical inlet for the clean water simultaneously preventing settled sludge and floating solids to drift off. When closed, the waterproof outlet prevents the settled activated sludge to stream in.



### G.A.A.-Teleskop Discharger

The original **G.A.A.-Teleskop** discharger adjusts to the changing water levels without initiating uplifting forces when the discharge pipe is empty.

### Discharger

Depending on the requirements and the local conditions the discharge pipe can be led through the tank's sidewall or base.

### Material

floater	:	PE
base unit / discharge pipe	:	1.4571
seals	:	EPDM, POM, Neoprene
flange	:	PP-St



## **Immediate Operation**

Assembly of the **G.A.A.-Lineardekanter**<sup>®</sup> (approx. ½ days per unit) with wall or base entrance on builder's part – electrical installation – the **Lineardekanter**<sup>®</sup> is ready for use. The assembly and start-up costs are reduced to a minimum!

## **Accessories at Surcharge and/or on Request**

- Drive unit in protection type IP 68
- Drive unit with electronic remote-position indicator
- Drive unit with integrated control system
- Stainless steel elements for specific applications (e. g. chlorous wastewater)
- Alternative material for seals
- Turbidity probe and/or turbidity probe mounting plate

## Sizes and Technical Data

type	LD 100	LD 150	LD 200	LD 250	LD 300	LD 350	LD 400	LD 450	LD 500
$Q_{max}$	60 m <sup>3</sup> /h	140 m <sup>3</sup> /h	240 m <sup>3</sup> /h	380 m <sup>3</sup> /h	540 m <sup>3</sup> /h	650 m <sup>3</sup> /h	850 m <sup>3</sup> /h	1,200 m <sup>3</sup> /h	1,400 m <sup>3</sup> /h
Discharge	DN 100	DN 150	DN 200	DN 250	DN 300	DN 350	DN 400	DN 450	DN 500
Weight approx.	260 kg	320 kg	340 kg	365 kg	415 kg	480 kg	505 kg	525 kg	558 kg
Work area	water level <sub>max</sub> /2								
Nominal capacity	90 W				180 W				
Voltage	400 V								
Frequency	50 Hz								
Protection type	IP 67								
Torque switch for open/close	yes								
Tandem way switch for open/close	yes								
Heating in drive	yes								

## Reference List Excerpt: Lineardekanter®

Treatment Plant	Location	Capacity [PT]	No. of Units	Type	Date
Freienwill	Germany	2,000	2	LD 150	Sep 96
Sieverstedt	Germany	1,100	1	LD 150	Nov 96
Adelbyer Nordfrieslandmilch	Germany	20,000	2	LD 150	Feb 97
Adelbyer Nordfrieslandmilch	Germany	20,000	2	LD 200	Feb 97
Wehlen-Naundorf	Germany	4,000	2	LD 200	May 97
Stute Nahrungsmittelwerke	Germany	50,000	3	LD 300	Jul 97
Emmelsbuell	Germany	600	1	LD 150	Oct 97
Goergeshausen	Germany	1,400	1	LD 150	Jan 98
Satrup	Germany	25,000	3	LD 300	Sep 98
Coppenbruegge	Germany	6,000	2	LD 300	Oct 98
Duenzling	Germany	950	1	LD 150	Oct 98
Franzburg 2. BA	Germany	4,500	1	LD 150	Nov 98
Konradshofen	Germany	500	1	LD 100	Nov 98
Temnitz Park	Germany	3,850	1	LD 300	Feb 99
Gammellund	Germany	1,000	1	LD 150	Jul 99
Kappeln	Germany	31,000	4	LD 400	Jul 99
Silberstedt	Germany	4,000	1	LD 300	Sep 99
Tuzla 1	Croatia	4,000	2	LD 200	Sep 99
Tuzla 2	Croatia	2,400	2	LD 150	Sep 99
Bollingstedt	Germany	1,000	1	LD 150	Nov 99
Gelting	Germany	4,500	2	LD 200	Nov 99
Messel	Germany	4,800	2	LD 300	Nov 99
Soerup	Germany	4,650	2	LD 250	Sep 00
Gaithein	Germany	13,000	2	LD 400	Oct 00
Nortorf	Germany	21,500	4	LD 300	Nov 00
Buensdorf	Germany	1,200	1	LD 150	Feb 01
Burgkunstadt	Germany	22,000	3	LD 450	Feb 01
Rickling	Germany	3,000	1	LD 250	Feb 01
Angermuende	Germany	6,000	2	LD 250	Jun 01
Langstedt / Eggebek	Germany	5,500	2	LD 250	Jun 01
Tangermuende	Germany	2,000	1	LD 300	Jun 01
Suederbrarup	Germany	7,300	2	LD 250	Jul 01

<b>Treatment Plant</b>	<b>Location</b>	<b>Capacity [PT]</b>	<b>No. of Units</b>	<b>Type</b>	<b>Date</b>
Blankensee	Germany	1,000	1	LD 150	Sep 01
Handewitt	Germany	6,000	2	LD 300	Oct 01
Casekow	Germany	1,000	1	LD 150	Nov 01
Niedererbach	Germany	1,400	1	LD 200	Mar 02
Großseelheim	Germany	6,400	2	LD 400	Apr 02
Weiskirchen-Thailen	Germany	12,000	2	LD 400	Sep 02
Berkenthin	Germany	4,800	2	LD 250	Nov 02
Großenwiehe	Germany	4,760	2	LD 200	Dec 02
Riedenburg	Germany	12,000	2	LD 400	Apr 03
Bordesholm-Reesdorf	Germany	25,500	4	LD 300	Jun 03
Treis-Karden	Germany	28,000	4	LD 500	Mar 03
Aukrug	Germany	7,000	2	LD 250	Jul 03
Kosel	Germany	3,000	2	LD 150	Nov 02
Wanderup	Germany	4,000	2	LD 250	Oct 03
Groß Wittensee	Germany	6,400	2	LD 250	Aug 03
Usadel	Germany	1,400	1	LD 200	Nov 03
Sachsenmilch / Leppersdorf	Germany	100,000	5	LD 400	Mar 04
Muehlen Eichsen	Germany	3,000	1	LD 200	May 04
Storck Werke / Halle (Westf.)	Germany		2	LD 200	Sep 04
Fockenbachtal / Straßenhaus	Germany	3,200	1	LD 250	Oct 04
Kropp	Germany	12,600	2	LD 300	Oct 04
Sieverstedt / Erweiterung	Germany	2,400	1	LD 150	Oct 04
Hohenwestedt	Germany	8,000	2	LD 300	Feb 05
Munkbrarup	Germany	2,375	2	LD 150	Mar 05
Eschringen	Germany	11,500	2	LD 450	Apr 05
Kuelsheim	Germany	24,000	2	LD 300	May 05
Tangermuende 2. BA	Germany		1	LD 200	May 05
Kasseburg	Germany	850	1	LD 150	Nov 05
Witzwort	Germany	850	1	LD 150	Dec 05
Erfde	Germany	3,200	2	LD 150	May 06
Guelzow	Germany	3,000	1	LD 250	Jul 06
Saarbruecken-Jaegersfreude	Germany	56,000	6	LD 450	Sep 06
Werthoelzli	Switzerland	8,000	2	LD 300	Oct 06
Pollenfeld	Germany	2,800	2	LD 250	Dec 06



<b>Treatment Plant</b>	<b>Location</b>	<b>Capacity [PT]</b>	<b>No. of Units</b>	<b>Type</b>	<b>Date</b>
Krummesse	Germany	4,800	1	LD 250	Feb 07
Werder	Germany	38,000	3	LD 300	Feb 07
Dedelsdorf	Germany	2,000	2	LD 150	Oct 07
Xia Jiahe	P.R.o China	130,000	4	LD 500	Nov 07
Lahr	Germany	3,300	2	LD 300	Dec 07
Kleinrinderfeld	Germany	3,000	1	LD 250	Dec 07
Zella-Mehlis	Germany	22,000	4	LD 400	Apr 08
Nauroth-Moerlen	Germany	2,400	1	LD 250	Under const.
Wertheim	Germany	2,500	3	LD 250	Under const.
Lichtenau	Germany	9.500	4	LD 250	Under const.
Neudenuau	Germany	3,500	2	LD 450	Under const.