



Flottweg
Separation Technology



ENGINEERED ...

Our passion to design, project and construct machines, thus our passion for technology, has been a part of us since Flottweg's beginning. Today, with our centrifuges, belt presses and systems, we are continuing what began with aircraft engines and motor bikes. People from all over the world now benefit from our extraordinary knowhow in mechanical solid-liquid separation. Our centrifuges, belt presses and systems are used in many different applications. Many products in daily life would not be available in the required quantity and quality without our centrifuges.

... FOR YOUR SUCCESS

Over the years we have accumulated extensive knowhow in separation technology and we use this knowhow again and again every day for the success of our customers. We see our customers as partners and support them with our knowledge. We listen to them and strive to offer the best solution on the market, based on our technology and experience. We know in detail the challenges our customers have to face on a market that is becoming increasingly dynamic. We make sure that Flottweg Customers stay one step ahead of their competitors.

These aren't just empty words – this is our commitment: Flottweg Separation Technology – Engineered for Your Success

On the following pages we'll be showing you the **Flottweg World**. Join us and have a **look behind the curtains**.





TODAY FLOTTWEG IS ...

... a worldwide company with strong values.

We follow guidelines which help us to deal with the people around us and those from foreign cultures. These rules are important to us and represent the basis for our actions. We are convinced that it's not our products that help our company reach the targets we set, but rather the people working at Flottweg - more than 850 employees all over the world are committed to the success of our customers.

... customer oriented. We consider our customers to be partners and we are striving for long-lasting partnerships characterized by openness and sincerity. Our customer's success is our driving force: We want to achieve optimum results together with our customers, results that can't be beat.

... intercultural. We attach great importance to the fact that all our employees worldwide feel a sense of belonging to the Flottweg Group. In our daily business we have projects with customers from more than 60 nations. Thus, respectful interaction with foreign cultures is self-evident for us.

... goal-oriented. Our management culture is characterized by being especially close to the employee and by encouraging autonomy and personal responsibility. Leadership is based on our coaching philosophy.

... transparent. Necessary changes are communicated mentioning the reasons why. Our communication is open and sincere both internally and externally. Thus Flottweg is a reliable partner for customers and suppliers.



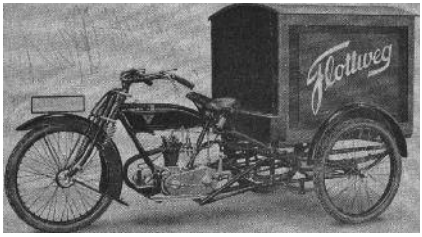
1911

Gustav Otto, an aviator, constructing engineer and entrepreneur, founds the aircraft factory "Gustav Otto Flugmaschinenwerke" in Munich. In March 1916, this company is integrated into the Bavarian aircraft factory "Bayerische Flugzeugwerke". This is considered to be the birth of the later Bavarian Engine Company "Bayerische Motorenwerke" (BMW).



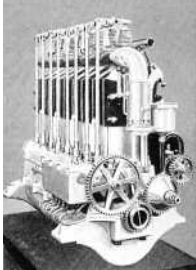
1920

After World War I, the Munich engine factory "Otto Werke" launches a bike with an auxiliary motor. This is the birth of the brand name "Flottweg".



1932

Dr. Georg Bruckmayer acquires the rights of the protected name "Flottweg" and founds the engine factory "Flottweg Motoren-Werke". The company starts manufacturing and distributing motorbikes and components for aircraft engines.



OUR ROOTS

1943

Due to World War II, the Flottweg Headquarters are relocated to Vilsbiburg and the company produces precision parts for the printing industry.

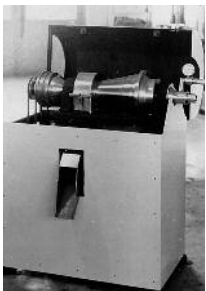


1953

In the 50s, the company starts to develop the first centrifuges as a second business sector.

1956

The first Flottweg Decanter, type Z1, is delivered to BASF AG, Ludwigshafen. From this time onwards, decanter centrifuges become the Flottweg core product.



Gustav Otto, who was fascinated by technology and mechanical engineering and who was the son of the inventor of the “Otto-Motore” engines, launches a bike with an auxiliary motor. This bike was called “Flottweg” as the German words “flott” mean quick and “weg” on the way. This is the birth of the brand name “*Flottweg*”.

The success of the company actually starts **in 1932**. Dr. Georg Bruckmayer acquires the rights of the protected name Flottweg and founds the engine factory Flottweg. Despite the economic crisis, he lays the milestone for an extraordinary mechanical engineering company. Initially, parts and components for aircrafts are built along with motor bikes. One milestone in the history of Flottweg is the construction of solid bowl centrifuges, so-called decanters, in the fifties.

No matter whether it's aircraft engines, motor-bikes or centrifuges: Engineering, the passion for technology and the joy to set new benchmarks again and again, has been a part of our history for more than 80 years.

MUNICH 1920



1964

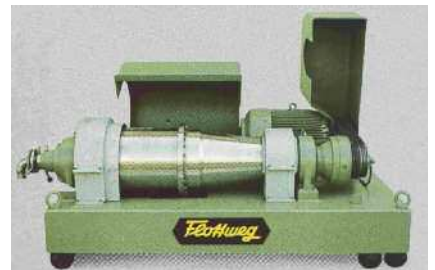
As manufacturer of the first high-speed decanter, Flottweg sets new benchmarks. The Z1L is able to reach accelerations of up to 5400 g. Even very fine solids can be separated successfully.



Thanks to this engineering achievement, Flottweg confirms their reputation as technology leader.

1974

Flottweg develops and manufactures the three phase decanter. This machine, with the brand name Tricanter®, has been setting benchmarks in different applications.



1983

A new generation of belt presses is developed especially for the fruit juice industry.



1991

Flottweg presents the high performance decanter Z92-4 for operation in large water treatment plants.



MILESTONES IN SEPARATION TECHNOLOGY ...

1993

A centrifuge concept still unique to this day is born: The Flottweg Sedicanter®, which combines the advantages of decanters and disc stack centrifuges.



... Engineered For **Your Success**

1994

The requirements for decanter drives are always increasing. Flottweg develops a milestone in decanter drive technology: The Flottweg Simp Drive®. The system automatically adapts to changing conditions in the feed, differential speed adapts exactly to the required parameters. Due to the high separation efficiency of the drive, energy consumption sinks while dewatering efficiency increases.



1995

Environmental protection and recycling are ever greater concerns for companies. This prompts Flottweg to develop the Sorticanter® for processing plastics. This centrifuge is able to separate different types of plastic from one another. This means operators can obtain the greatest possible purity of plastic grades.

OUR CUSTOMERS' SUCCESS

has always been our driving force. For more than half a century we've been collecting immense knowhow in all relevant applications. We know the challenges our customers have to face in detail. It's our goal to offer the best separation technology solution to our customers so they can be one step ahead compared to their competitors. Together with our customers, we've been developing innovative machine designs and processes for years which make an essential contribution to our customers' success. Thousands of successful projects form the basis for our employees' unique treasure trove of experience.



1998

Flottweg starts with the construction of disc stack centrifuges. A characteristic of the self-cleaning disc stack centrifuges is the silent and efficient Soft Shot® discharge system.



1999

In order to be able to serve the Chinese market even better, Flottweg founds its own subsidiary in Shanghai including offices and a workshop.



2002

An important year for Flottweg. Peter Bruckmayer, son of Dr. Georg Bruckmayer, releases Flottweg from group affiliation and leads the company to independency. This is the basis for the success in the years to come.

2007

Environmental centrifuge C series. Due to increasing environmental awareness and rising prices for energy and sludge disposal, requirements for communal water treatment plants are increasing. Flottweg develops the C series especially to meet these requirements. The decanter geometry and the features of these machines are specifically adapted to the waste water sector. Due to the Simp Drive® concept these

MILESTONES IN SEPARATION TECHNOLOGY ...

high performance centrifuges set new benchmarks in sludge thickening and dewatering while energy consumption is reduced.

2008

Flottweg founds its own subsidiary in Kentucky, USA, called Flottweg Separation Technology Inc.



2010

A disc stack centrifuge series for the brewing industry is completed.



2012

Flottweg presents the Tricanter® Z8E for the first time. This machine is the largest three phase decanter in the world at the time. The first machine is delivered for starch production.



... Engineered For **Your Success**

2014

C-XI series. Flottweg caps it all off: Even more power for the C series. Our engineers once again improve the drive system and the flow streams within the centrifuge. This is a big success. Optimized dewatering performance and highest purity in the centrate are the results.



2015

Flottweg celebrates the 10 000th decanter. During a big party, the anniversary centrifuge is first presented in Vilsbiburg. It was ordered by a wastewater treatment plant located in Lexington, Kentucky/USA.



2016

The Z series is enlarged by the Flottweg Decanter Z3E. It is a flexible and efficient machine, easy to maintain. This small module decanter comprises all the advantages offered by the large machines of our Z series. Like its "big brothers", the Z3E is used by our customers in different applications.





SIX MINUTES ...

... are all that's needed to fill an Olympic swimming pool with the amount of sludge our machines are processing right now all over the world.

Of course, no one likes swimming in a sludge pool. And that's exactly why water treatment plants all over the world use our technology – from Atlanta, Berlin, St. Petersburg, Shanghai to Zermatt. Because high-quality drinking water is impossible without efficient waste water treatment.

Flottweg in the waste water treatment industry

- Dewatering and thickening of sewage sludge
- Solids separation during drinking water processing
- Thickening of agricultural sludge (stock breeding, biogas etc.)





ABSOLUTELY FREE OF PARTICLES ...

... this is what thick extract has to be in the production of soluble coffee.

Customers expect perfect instant characteristics of soluble coffee powder which means that there should be no insoluble solid particles in their cup after brewing with hot water. To assure this, our clarifier separates all insoluble solids from the extract using enormous acceleration forces of up to 9000 g. Even the finest particles are separated. This is how we make sure that there will be a perfect instant product in the cup later. That's how a day should begin ...

Flottweg in the beverage industry

- Production of fruit juice, direct juice and vegetable juice
- Separation technology for the brewing industry
- Production of extracts and instant beverages (tea, coffee)
- Clarification of wine and must

... and many more





LONGER THAN 4000 KILOMETERS ...

... that's how long a line of trucks would be if we shipped the total amount of flour our centrifuges process per year all over the world on silo trucks. After all, our decanter centrifuges play an important role in the production of starch and gluten.

Starch is a component of many foods and also the most important source of carbohydrates for the human diet. Moreover, modified starch is very important in different industrial sectors. This powerful material is used not only in the food industry but also in the paper and textile industry.

The most efficient method to separate wheat starch in its precious components is to use our Tricanter[®]. It separates starch and other constituents reliably and directly in the first process step. This makes subsequent process steps easier, increases product quality and saves precious potable water. So don't set your sights lower.

Flottweg in the chemical, pharmaceutical, and food industries

- Production of wheat starch
- Production of lactose and casein
- Production and recycling of PVC and PE
- Production of soy milk and soy proteins
- Organic and inorganic petrochemistry
- Production of vitamins

... and many more





DELICIOUS SUSHI ...

... has more to do with our centrifuges than you might think. Many of the popular rolls are filled with surimi. It isn't just used for trendy cooking, because surimi is precooked, healthy, and almost fat free.

Our machines play a key role in the production of surimi. Using our decanters, it is possible to increase yields by more than 50 % and to assure that precious fish proteins are not lost.

Surimi goes from the centrifuge in the sushi roll so to speak.

Flottweg Centrifuges for the production of animal proteins, oil, fat, and biofuels

- Production of surimi
- Recovery of olive oil
- Production and clarification of palm oil
- Clarification of seed and press oil
- Production of bioethanol and biodiesel
- Processing of animal byproducts
- Processing of fish and fish byproducts
- Efficient algae harvesting and oil extraction

... and many more





OBJECTS OF DESIRE ...

... normally look different. If you see black oil lagoons or tanks you certainly wouldn't think that they are precious.

But before we are too pessimistic about these oil lagoons, we should consider that they contain precious raw oil. At this point our unique Tricanter[®] come into play transferring waste into golden raw materials. Thanks to a sophisticated system, our machines separate oil from water and solids sludge. The recovered raw oil is so clean that it can be used in refineries or for energetic use, not only solving disposal problems but helping to obtain resources.

Flottweg Separation Technology for processing industrial waste and mineral oils

- Processing of sand and gravel wash water
- Cleaning of waste water and exhaust gas from steel works
- Cleaning and processing of tar in coking plants
- Processing of oily waste water
- Processing of oil sludge from lagoons and ponds
- Processing of oily residues from tank cleaning
- Processing of drilling mud, emulsions, and fluids
- Processing of ore and minerals

... and many more





TRADITION AND HIGH TECH ...

... aren't contradictions at our headquarters in Vilsbiburg in Lower Bavaria. Our more than 650 employees appreciate the unique location and infrastructure of the little town, 80 km to the north-east of Munich and near Landshut.

Beside its economically favorable position, the high quality of life also makes the town attractive. Sporty cyclists have one of the most beautiful landscapes of Bavaria with pristine nature right outside their doors. In winter, the Bavarian Forest and the Alps attract our skiers to the mountains.

For travelers, the Munich Airport is only 45 minutes away. This is very comfortable not only for business trips but also for vacation trips.

And our employees are very happy about the manifold cultural offerings and wide variety of recreational activities as well as the many festivities in the region.





FROM AUSTRALIA TO ZAMBIA ...

Our machines are real globetrotters. They are in use in all countries of the world and even in the most astonishing places. You can find them on ships, in the Antarctic, or deep under the earth.

In order to be available for our customers all over the world, we have subsidiaries and service centers around the world. Moreover, committed contact persons are ready to assist you in our representative offices in almost all countries around the globe.

Although we are present throughout the world: Our decanters, disc stack centrifuges and belt presses are exclusively manufactured in Germany. Because the requirements for our centrifuges are enormous due to the different environments, from tropical heat to Siberian cold.

Thus, we have a clear idea of how quality and performance have to be. This reliability and quality "Made in Germany" are the key points that our customers rightly expect from us and they appreciate it.

Flottweg at a glance

- Central manufacturing at the headquarters in Vilsbiburg
- Global sales and service network in almost every country in the world
- More than 85 % of our machines are delivered abroad
- More than 850 employees all over the world, approximately 650 at the headquarters in Vilsbiburg
- More than 50 trainees, thus one of the most important apprenticeship companies in the region

... and much more



Tricanter®

The pioneer of all three-phase decanters. Further developed by Flottweg over the years, often copied, but our machine is still unique in its performance.



Sorticanter®

Developed for plastics recycling; the Sorticanter® can handle mixtures with the solids sedimenting and flowing.



Flottweg OSE Decanter

An OSE Decanter is designed and adapted specifically for the thickening of primary and surplus sludge. OSE means optimal sludge thickening.



C series

Environmental centrifuges which were especially designed to meet the requirements of the waste water market.



Flottweg HTS Decanter®

This decanter was especially designed to meet requirements in sludge dewatering. The name says it all: HTS means high dry substance.



Sedicanter®

Our globally unique centrifuge concept for processing mixtures with soft sediment. The Sedicanter® combines the advantages of decanters and disc stack centrifuges.



Prodecanter®

Proteins are power agents. In the production of animal and vegetable protein, the Prodecanter® flexes its muscles, thus increasing yields.



Z series

Suitable for many applications, mechanically excellent, superior energy efficiency and outstanding performance: These are only some of the characteristics of our Z series. Due to the modular design, the machine can be adapted specifically to the requirements of different industries and applications. And it doesn't matter if these are explosive liquids mixtures, highly abrasive materials or hygienically sensitive products.



STRONG FLOTTWEG BRANDS FOR YOUR SUCCESS

DECANTER CENTRIFUGES ...

... offer the industry the broadest range of applications compared to other centrifuge types. At the same time, the decanter is among the most complex machines used for solid-liquid separation engineering.

But we can do even better. Over time, Flottweg has developed a large number of innovative separation technology concepts giving new momentum to the branch. Our belt presses and disc stack centrifuges are entirely our own development and are 100 % in compliance with the Flottweg Philosophy. No matter the application – we have the right separation equipment.

Only with a deep understanding of the mechanics and an extensive knowledge of the process is it possible to achieve the best separation results.

Unique concepts, developed for our customers' success.



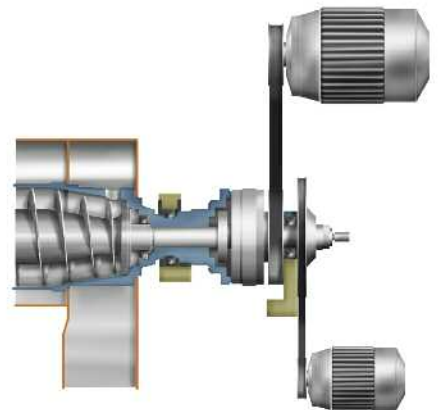
Recuvane®

System that can be retrofitted to save 10 – 20 % of the energy.



Simp Drive®

For more than twenty years, Flottweg has been setting benchmarks with this innovative drive concept. Energy-saving, powerful, and economic. Flottweg is continuously developing the Simp Drive®.



Combined with our **Simp Control®**, we get more out of your process than anybody else. The system automatically adapts to changing conditions in the feed, thus saving money because only the energy actually needed is supplied. This allows the system to produce high quality because changing conditions are automatically balanced.

AC series

Maintenance friendly, robust and “Made in Germany”, just like our decanter centrifuges – these are the characteristics of the Flottweg Disc Stack Centrifuges of the AC series.

Compared to solid bowl centrifuges, disc stack centrifuges work at a considerably higher rotation speed. Moreover, the disc stack provides a large clarifying zone. This makes it possible to discharge very fine solid particles efficiently and to separate liquid mixtures.

DISC STACK CENTRIFUGES, BELT PRESSES, AND ADDITIONAL FEATURES



One outstanding feature of Flottweg AC Separators is the Soft Shot® discharge system.

Soft Shot®

The heart of the machine is the Soft Shot® bowl discharge system, providing smooth running. Unlike other discharge systems, there is no loud bang.

BFRU belt presses

Our belt presses excel in high yields and easy handling. We consistently use stainless steel, thus assuring high hygienic standards and long machine lifetime.



A man in a dark suit and tie stands in profile, looking upwards and to the right. He is holding a large, dark blue, three-dimensional cube. The cube is tilted, and its top face is visible. On the top face of the cube, the Flottweg logo is displayed in white. The logo consists of a stylized 'F' symbol followed by the word 'Flottweg' in a bold, sans-serif font, and the words 'Separation Technology' in a smaller, sans-serif font below it. The background is a light-colored, textured wall with some cracks and shadows. The overall scene is lit from the left, creating soft shadows on the wall and floor.

Flottweg
Separation Technology



FIVE PLANNING DEPARTMENTS ...

... are available at Flottweg for all of our five industrial sectors. These departments are in direct contact with our sales groups. That guarantees short communications pathways to project management. We know the requirements of our customers and their industries. Many times we have worked hand in hand with our customers to develop customized solutions.

The variety of application possibilities of our machines is equaled by the challenges our customers encounter every day. Our individual solutions offer clear added value. Systems customized to the application work more smoothly and can also offer higher performance.

THE FLOTTWEG PACKAGE FOR YOUR SUCCESS

Our services at a glance

- Worldwide advice
- Laboratory tests, especially in case of new product and process ideas
- Pilot tests on-site, at the customer's facility, under real conditions, all over the world
- Customized solutions for your application
- Repairs and maintenance all over the world
- Spare parts supply for up to 30 years
- Advise beyond sales





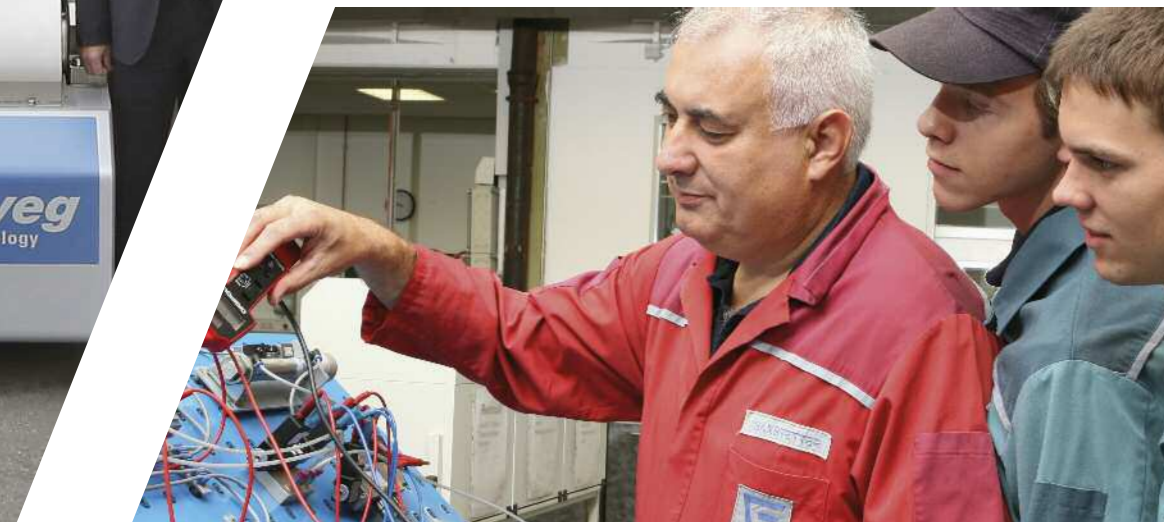
THE PEOPLE BEHIND THE SUCCESS ...

Some people claim that we at Flottweg are too accurate and that we are technology obsessed. But when our employees have something in their clever minds, then they have their reasons. Moreover, they always take into consideration our customers' needs. Maybe it is our passion for separation technology that fascinates our customers. After all, behind our customers' success are also the Flottweg employees and their knowhow.

Therefore, only qualified and skilled experts deal with our machines. We transfer our knowhow from one generation to the next. We're especially proud of our apprenticeship workshop, which has been in operation since 1946.

Many a rascal that started as a trainee at Flottweg is now in a leading position. That's great – because we strive to keep our employees in our company for many years.

Making a career at our company is more than an interesting development perspective. To us, it's a clear calling to each individual to contribute to the company's success with their knowledge, commitment, and personality.





Claudia Erber

Sales Backoffice, since July 1999

The special thing about Flottweg is the team with which I work. I assist the Flottweg sales managers so that they can concentrate on our customers' requirements. I appreciate the flexible working hours. For me as a mother of two children, I had fantastic options for getting back to work after each of my maternity leaves.



Julia Lohr

Advertising department, since October 2010

I really appreciate the fact that my work is so diversified: there's everything from creative work to juggling with numbers. And working together with partners and colleagues from all over the world is interesting and I can often practice my English. Every day I learn something new. I think it is a reassuring feeling to have a safe workplace in a growing and modern company.



Keven Hardel

Bowl manufacturing, since August 2014

The special thing about Flottweg is the working climate. People help each other. Complicated tasks are explained several times. Moreover, the social security benefits Flottweg offers are excellent. Besides supplementary grants like vacation and Christmas allowances there is a commuting allowance and casualty insurance which also covers the private area.



Michael Maierbeck

Turning/milling center, since September 2000

At Flottweg, I work with modern production machines every day and I like this very much. Moreover, there is an excellent working atmosphere and you're not just a number in the system.



Karl Rackerseder

Head of the EFO sales division,
since October 1992

Flottweg is a very interesting company for me due to its international focus and the sheer endless number of applications in which our machines can be used. A unique experience for me is the cooperation with my colleagues all over the world. The daily contact with different cultures not only on the phone but also during business trips makes work at Flottweg very diversified and fascinating. Besides, with our machines, we contribute to environment protection and optimum use of our natural resources.



WHY FLOTTWEG IS SPECIAL FOR ME ...

Florian Steinbrückner

Controlling, since September 2004

I like working in our young and constantly growing team. What I really appreciate is the diversity of my tasks. Flat hierarchies and a team playing culture provide a pleasant working climate.

Due to our continuous growth, Flottweg has become one of the most important employers of the region. But its structure is still that of a family business. The directors know the machine operators by name and appreciate their work. This is proved by the annual bonuses which are paid to all employees, even to trainees. If the company is fine, the employee is fine, too. And that is why Flottweg differs from many other companies.



Flottweg Separation Technology – Engineered For Your Success



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