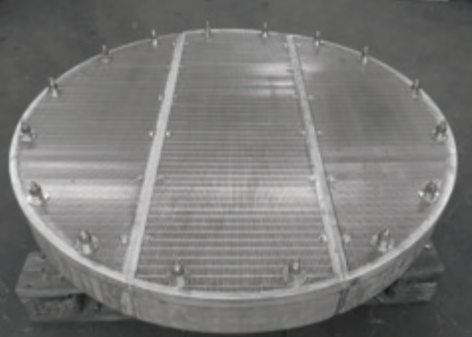
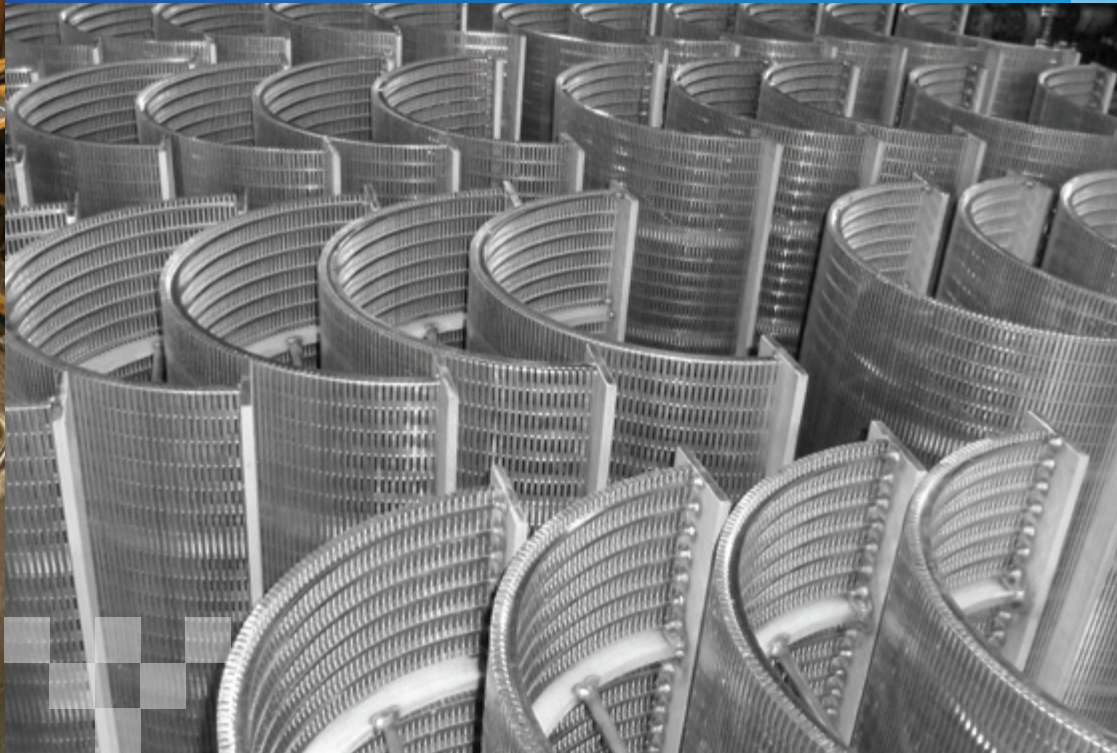




CFL con-slot® Profile Wire Screens

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carbis
filtration
SCREENING & PROCESS FILTRATION

World class process design and manufacture of profile wire slotted products, screens and filters for industrial filtration and separation equipment, the production, transportation and refining of oil and gas, purification of water, the treatment of industrial liquids and gaseous media, and general processes including dewatering, desalination, and separation.

With vast knowledge and experience accumulated over more than 60 years, we have developed technologically advanced manufacturing methods and equipment, and by applying technical and intellectual resources, CFL support clients globally solving a variety of challenging tasks at various stages of design and assembly, considering the technical peculiarities of complexed processes and the requirements of our clients and end users.

With a framework of joint research projects and support from the European Commission, in conjunction with Technische Universität München, Technische Universität Bergakademie Freiberg, Fraunhofer-Institut für Keramische Technologien und Systeme IKTS, we conducted extensive research and practical testing to allow us to develop exclusive software allowing accurate mechanical and hydraulic calculations of various slotted surfaces, for the purpose of optimal design selection, and effective operation of equipment.





CFL con-slot® wedge wire screen uses

CFL con-slot® wedge wire screens are specifically used when process requirements call for a safe and economic solution of solid/liquid and solid/gas separation. High flow rates combined with excellent resistance against collapse and burst pressure, allows for sophisticated engineering and design solutions.

CFL con-slot® profile wire screens are used in a wide range of applications, such as ground water exploration, crude oil and natural gas production, water treatment, chemical and pharmaceutical production. The structure of CFL con-slot® profile wire screens is a combination of surface profiles and supporting profiles, fusion welded at

each crossing. Carefully selected parameters guarantee that the mechanical structure of the raw materials used in the manufacture of CFL con-slot® profile wire screens remains unchanged. Post fabrication pickling and passivation of all CFL con-slot® profile wire structures enhances the corrosion resistance of our finished product.

FORMATIONLINK™

CFL con-slot® **FORMATIONLINK™** is an innovative slotted screen for oil, gas, and water exploration and production.

FORMATIONLINK™ Well Screens

The unique structure of CFL con-slot® **FORMATIONLINK™** requires no additional supporting structure, such as a perforated pipe base, yet **FORMATIONLINK™** offers superior strength characteristics over pipe based screens.

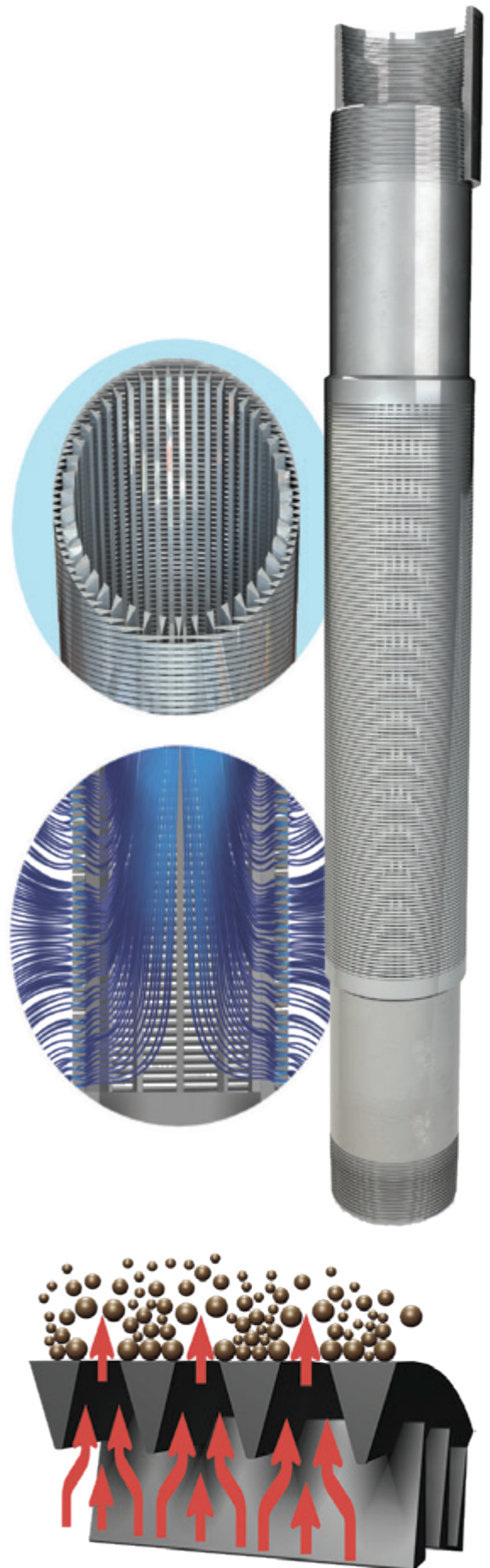
Exceptional design features

CFL con-slot® **FORMATIONLINK™** offers a single filtration surface, this promotes straight radial filtration of reservoir fluid and prevents the formation of stagnant zones, excluding mudding (fouling) of the screen surface and erosion damage. This reduces hydraulic losses during the influx of fluid into the well.

Advantages of CFL con-slot® **FORMATIONLINK™** design:

- Maximum possible open surface, maintaining inherent strength characteristics.
- Provision of laminar flow of media, filtered by the screen.
- Formation of a natural gravel filter.
- Minimal hydraulic resistance.
- Promotion of conditions to allow for reverse circulation.

CFL con-slot® **FORMATIONLINK™** screens are supplied for completion of oil, gas, and water wells (casing column, open hole, open hole with gravel jacket) in vertical, controlled directional, and horizontal wells, underground gas storage facilities wells, and for sidetracking activities.



Oil refining

CFL con-slot® have more than 40 years of experience in the process design and production of process internals for axial and radial flow reactors, allows us to offer high integrity equipment intended for long service life.

1. Switch Gear

Designed for reduction of the velocity of product inlet into the reactor, whilst protecting the catalyst layer against washout and destruction of the trays.

2. Catalyst Support Grids

Designed to support catalyst inside the reactor, with axial flow movement, a structure of flat screens and supporting beans.

3. Quench Rings (Quench Pipes)

Designed for the supply of flow to the area of quench zone of the reactor, manufactured either in the form of a ring or as a collector.

4. Separation Trays and Quench Chests

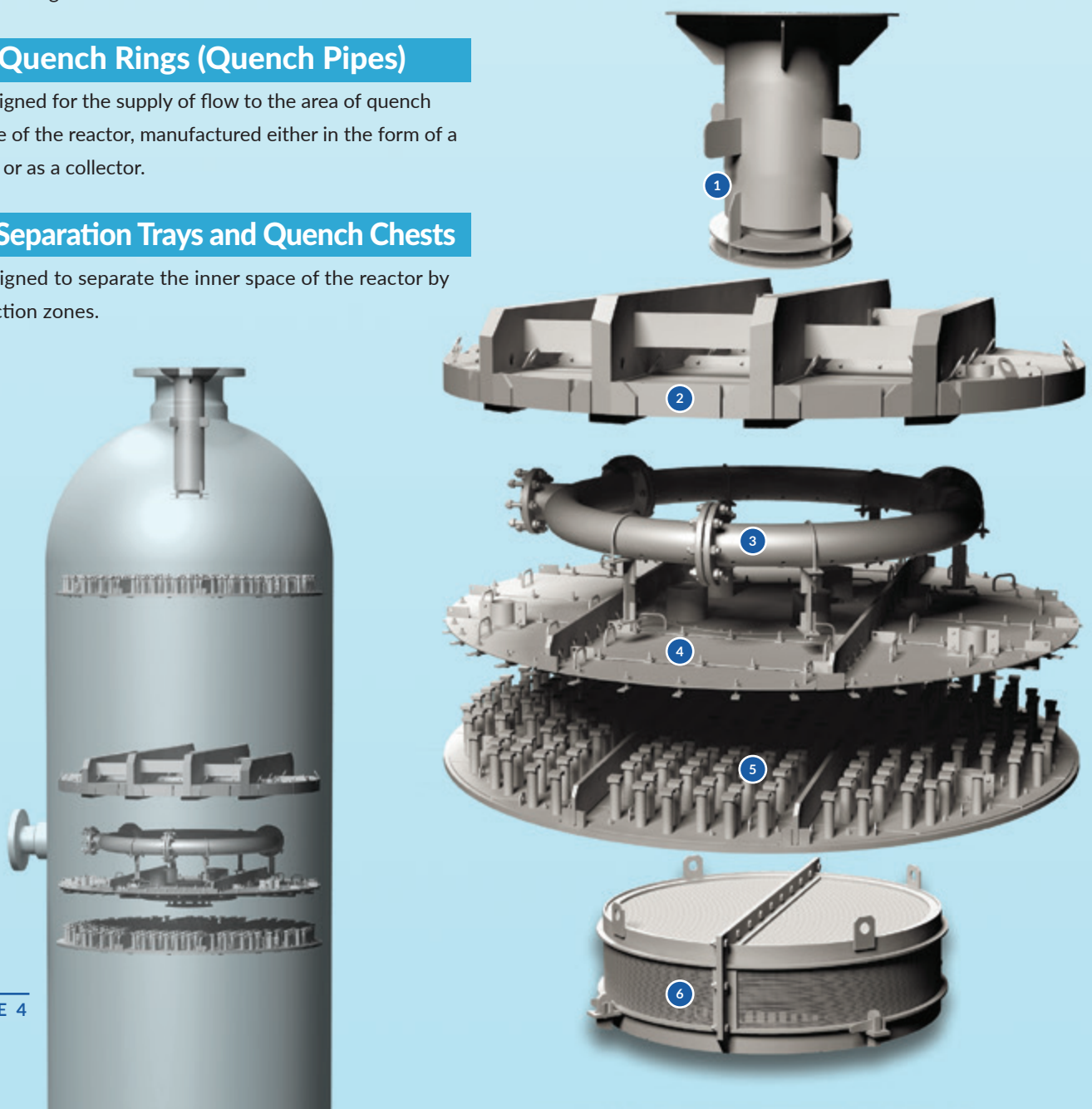
Designed to separate the inner space of the reactor by reaction zones.

5. Dead Trays

Designed for even distribution of the liquid phase flow across the entire surface of the catalyst layer, catching corrosion products. Manufactured from segments for ease of installation.

6. Outlet Collectors

Designed to prevent outlet migration of catalyst.



Many years of experience in the production of specialist process internals for axial and radial type reactors enables us to supply high-quality products offering a long service life.

1. Switch Gear

Switch gear is designed for the reduction of velocity of product into the reactor, whilst protecting the catalyst layer against washout and damage to the trays.

2. Centre Pipes

CFL con-slot® centre pipes serve the removal of product from the reactor, and to hold the catalyst within the reactor.

3. Separation Trays

Designed for separation of the inner space of the reactor into the reaction zone, and flow formation zone.

4. Scallops

CFL con-slot® scallops are designed to provide a uniform distribution of the liquid phase along the catalytic layer, and entrap corrosion products. CFL con-slot® scallops are constructed using our proprietary profile slotted structure, having a positive impact on throughput capacity.

5. Spacing Rings

CFL con-slot® spacer rings are used to fix the scallops inside the reactor.



Water treatment

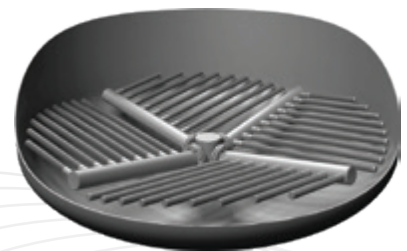
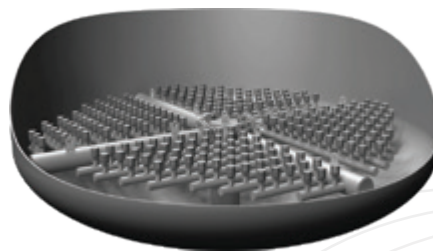
CFL have a wealth of experience in the process design and production of various screens, filters and specialist internals for the filtration, and separation of solids, for water treatment and purification applications.

CFL con-slot® profile wire screens and filters are used to separate large volumes of water extracted from lakes, rivers, and the sea, for the supply to power plants, desalination units, and for industrial process water.



Distribution and Collector Systems

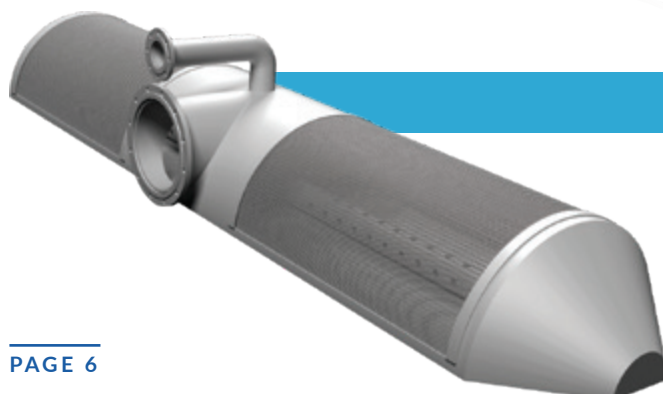
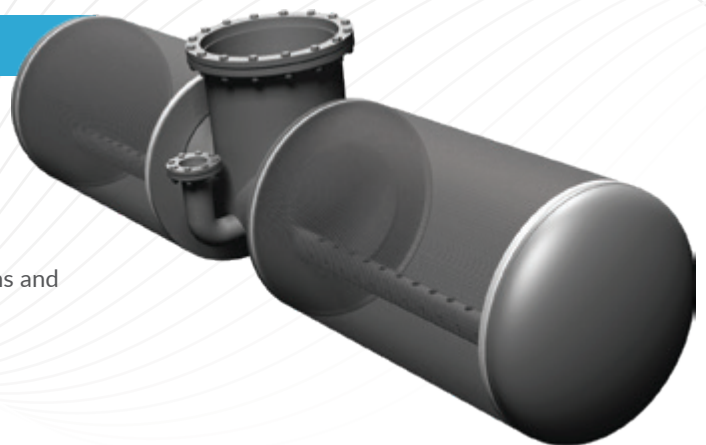
CFL offer the process design of specialist distribution and collector internals for fluid distribution and media retention, for ion exchange systems, nut shell filters and dual / multi media filters.



Water-Intake Screens

Water-intake screens are designed to be installed in open waters such as rivers and lakes, and serve to remove buoyant particulates, sand, and other solids.

Typical design of a water-intake screen with outlet connections and purge system, also available with a fish protection function.



Low-profile Water-Intake Screens

Designed to be installed in water bodies such as shallow rivers and streams, tip design allows for installation at the bottom while the cleaning system prevents the screen surface from fouling during operation, providing maximum intake of screened water.

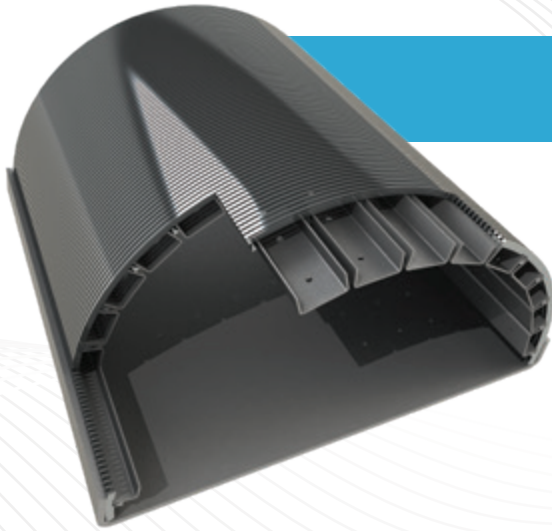
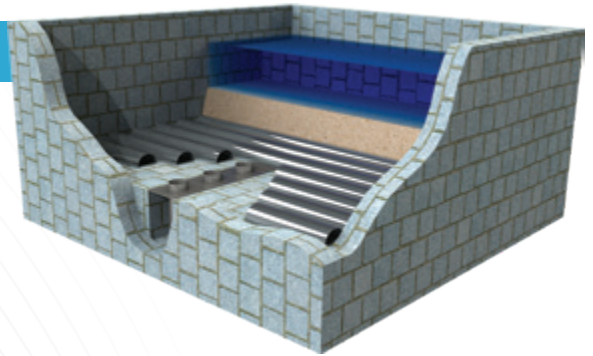


Vertical and Horizontal Water-Intake Screens

Designed to be installed in small vessels, and can also be used in small open water bodies.

Screen Gutters for Filtration Chambers

Gravity fed resin bed filtration chambers are used for the purification of extracted and recycled water. The unique design of CFL con-slot® screen gutters allows for substantial increase in filtration cycles, and simplified installation and maintenance, with the advantage of saving time, and achieving a high degree of water purification.



The CFL con-slot® design has a number of indisputable advantages:

- Filter elements manufactured in the form of a gutter, with a semicircular screen section, offers maximum open sectional area, and ease of installation.
- V shaped profiles during flushing/purging creates the Venturi effect, which positively impacts the cleaning of the fouled surface.
- CFL con-slot® design allows the use of a two-layer load (1st layer – sand with the fraction of 0.6-0.8mm, 2nd layer – anthracite of 0.8-2.2mm) minimal load height is maintained.

Mechanical Drum Filters

Mechanical drum filters are the optimal liquids pre-treatment solution, water and liquids are screened of impurities, offering a number of advantages over vibrating and sieve bend type screens. Drum filters are successfully operated in various industries, including wastewater, food, and paper industries.

False Bottom Internals

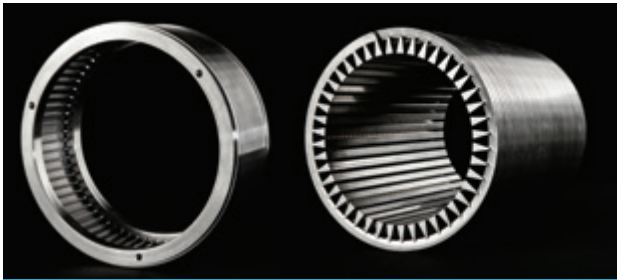
This structure represents flat slotted screens interconnected without clearance and supported by a bearing frame. It ensures a maximum open surface, quick removal of cation exchange resin, and simple repair and replacement of the filtering surface.

Distribution and Collector Arrangements

CFL con-slot® design and manufacture proprietary collector and distributor systems, including lateral and nozzle systems, to suit your application. The design and structure of CFL con-slot® systems promotes the use of CIP, and offers maximum rigidity and structural integrity, helping to reduce repair and maintenance costs.

Chemical processing, mining, oil and gas processing

More than 40 years of experience in the process design and production of process internals for axial and radial flow reactors allows us to offer high integrity equipment intended for long service life.



Centrifuge Screens

CFL con-slot® centrifuge screens, baskets and meshes are used worldwide to optimise performance and solve problems of liquid / solid separation within the Chemicals, Minerals, Plastics, Mining, Food and Petrochemical industries. The advanced design of CFL con-slot® screens and meshes, offer higher product throughput, reduction of residual moisture and longer operating life. CFL con-slot® screens are also available with a working surface coating of hard chrome or ceramic, prolonging service life further, reducing maintenance cycle frequency and equipment downtime.

CFL con-slot® centrifuge screens and meshes are engineered to retrofit directly into OEM equipment without the need for any equipment modification. Equipment served, Pusher, Screen Bowl Decanter, Screen Scroll, Peeler, Vibratory and Filtering centrifuges.

OEM's served, Krauss Maffei, Siebtechnik, Tema, Broadbent, Bird, KHD, Humboldt, Escher-Wyss, and Alfa-Laval.

Cassettes

CFL con-slot® screen cassettes are a weldment consisting of several filter elements or candles, designed to replace obsolete or polymeric type filter cartridges, reducing long term costs, waste, and environmental impact.

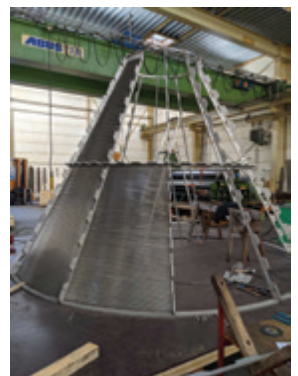


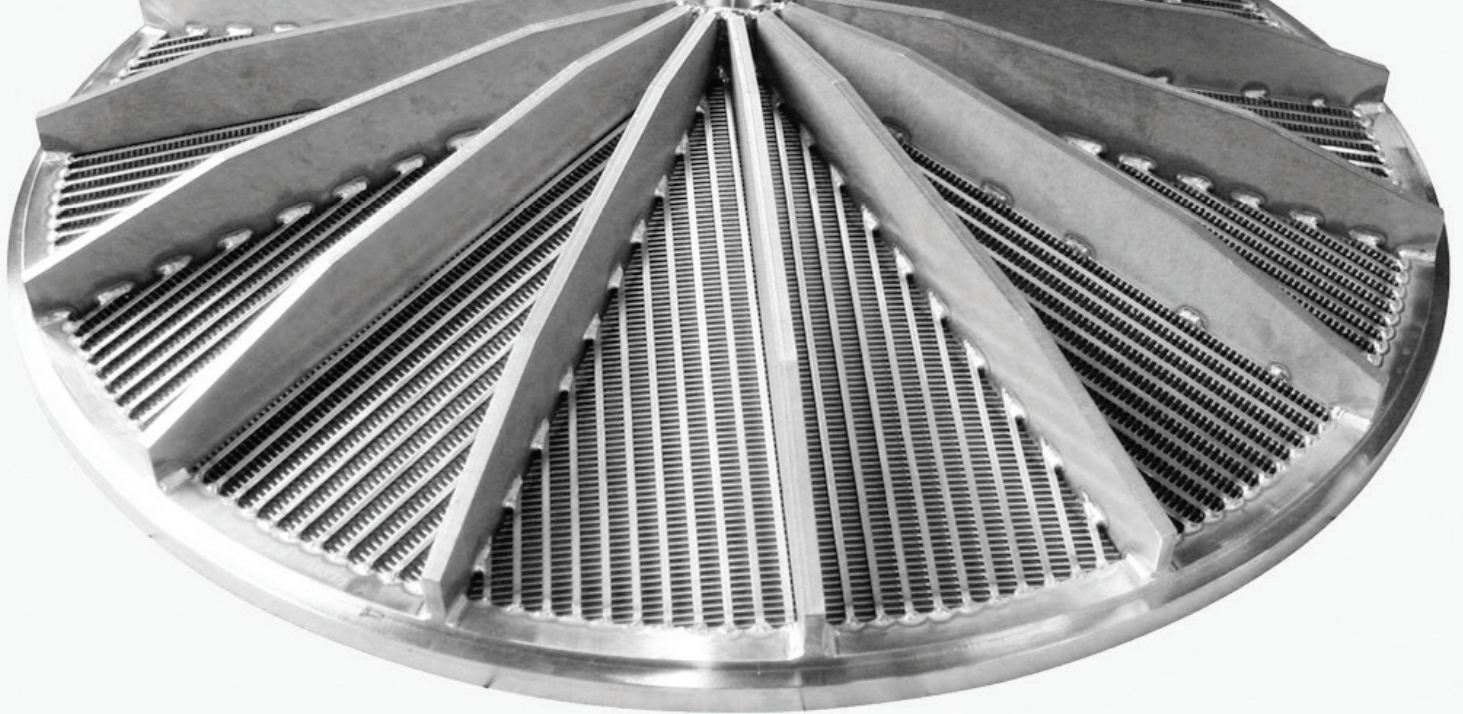
Baskets and Assemblies

CFL con-slot® baskets and weldment assemblies consist of the screen filter elements, mounting and division plates, flange connections, and other structural elements, designed for use in many industrial applications and industries.

Conical Screens

CFL con-slot® conical screens are installed in main gas and oil pipelines as permanent protection for compressors, heat exchangers and other sensitive equipment. The design of CFL con-slot® conical screens allows the use of the cross-sectional area of the pipeline more efficiently, controlling effective removal of mechanical impurities through the pipeline.





Media and Product Support Screens

CFL con-slot® vessel and tank media support screens are used in the brewing and water treatment industry for separation the of media and product from the liquid phase. For example, in brewing, effective separation of the mash from the wort, impacts the finished quality of the beer.

Implementation of CFL con-slot® screens increases the cross-sectional area by more than 15% when compared with traditional mesh screens, offering even distribution of flow of raw materials across the filtering zone, preventing stagnant zones, improving the quality of the finished product, and increasing permissible load on the screen surface.

Diffusion Screens

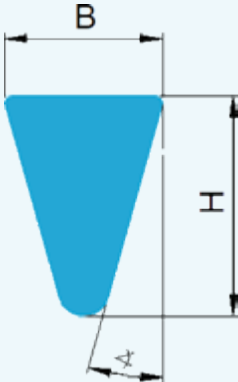
Diffusion extractors of various forms such as inclined, column and rotary, are widely used in the sugar industry. Diffusion screen operation is aggressive, with highly erosive media and high mechanical loads. CFL con-slot® screens employ triangular profiles of alloy steels, offering significant service life and improved performance. Performance optimisation is achieved with the greater open area offered by CFL con-slot® screens, compared with the standard perforated or milled screens.

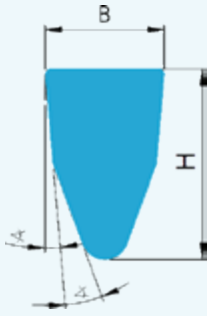
The unique contact welding methods of CFL con-slot® screens allows it to achieve homogeneity of the parent material at profile junction points. In order to achieve maximum strength and open area, CFL con-slot® product design is competently calculated using our proprietary surface and supporting profiles. CFL con-slot® principal profiles are presented in the table below.

Screw Press Screens

CFL con-slot® screw press screen separators are designed for continuous separation of liquid and solid fraction, our proprietary screen structure is less prone to plugging and fouling, unlike perforated screens. CFL con-slot® screens offer larger open area, having a positive influence on separation efficiency.

Technical Data - CFL con-slot® Profile Wire

	Profile type	B mm	H mm	α grad ²	A mm ²
	V 075	0,75	1,80	8,00	0,91
	V 10	1,00	2,00	8,50	1,44
	V 15	1,50	2,50	12,00	2,50
	V 18	1,80	3,70	10,50	4,26
	V 20	2,00	3,00	13,50	4,00
	V 22	2,20	4,50	10,00	6,53
	V 23	2,28	3,55	14,00	5,50
	V 25	2,50	3,50	15,50	5,51
	V 28	2,80	5,50	10,00	10,21
	V 30	3,00	4,00	16,00	7,58
	V 31	3,10	6,00	10,00	12,37
	V 34	3,40	6,80	10,00	15,27
	V 35	3,50	5,00	15,50	10,75
	V 40	4,00	6,00	15,50	14,42
	V 40.9	3,97	9,18	8,50	24,14
	V 45	4,50	8,50	12,50	22,74
	V 50	5,00	10,00	12,00	29,28

	Profile type	B mm	H mm	α grad ²	A mm ²
	W 15	1,50	2,50	4,00/13,00	2,78
	W 22	2,20	5,00	5,00/10,00	8,15
	W 25	2,50	4,00	5,00/15,00	7,51
	W 30	3,00	4,55	5,00/15,00	9,91

	Profile type ²	D mm	A mm ²
	R 25	2,50	4,91
	R 30	3,00	7,07
	R 34	3,40	9,08
	R 36,5	3,65	10,46
	R 40	4,00	12,57
	R 42	4,20	13,85
	R 46	4,60	16,62
	R 50	5,00	19,63
	R 52	5,20	21,23
	R 60	6,00	28,27

	Profile type	B mm	H mm	A mm ²
	I 8,0x2,0	2,00	8,00	15,79
	I 9,0x2,0	2,00	9,00	17,79
	I 10,0x2,0	2,00	10,00	19,79
	I 12,5x2,0	2,00	12,50	24,78
	I 13,0x2,0	2,00	13,00	25,78
	I 15,0x2,0	2,00	15,00	29,78
	I 20,0x2,0	2,00	20,00	39,78
	I 20,0x3,0	3,00	20,00	59,78
	I 25,0x2,0	2,00	25,00	49,78
	I 25,0x3,0	3,00	25,00	74,78
	I 30,0x2,0	2,00	30,00	59,78
	I 30,0x3,0	3,00	30,00	89,78
	I 35,0x2,0	2,00	35,00	69,78
	I 35,0x3,0	3,00	35,00	104,78
	I 38,0x2,0	2,00	38,00	75,78
	I 38,0x3,0	3,00	38,00	113,78
	I 50,0x3,0	3,00	50,00	149,78

Material List

Material No.	EN Description	Brand Name	
V2A-Cr-Ni steel			
1.4301	X5CrNi18-10	AISI 304	UNS S30400
1.4306	X2CrNi19-11	AISI 304L	UNS S30403
1.4541	X6CrNiTi18-10	AISI 321	UNS S32100
V4A-Cr-Ni-Mo steel			
1.4404	X2CrNiMo17-12-2	AISI 316L	UNS S31603
1.4571	X6CrNiMoTi17-12-2	AISI 316Ti	UNS S31635
high-alloyed steel			
1.4370	X15CrNiMn18-8	ER 307	S 98
1.4410	X2CrNiMoN25-7-4	Alloy 2507	UNS S32750
1.4462	X2CrNiMoN22-5-3	AISI 318LN	UNS S31803 / SAF 2205 / F51
1.4501	X2CrNiMoCuWN25-7-4	Zeron 100	UNS S32760 / F 55
1.4529	X1NiCrMoCuN25-20-7	Alloy 926	UNS N08926
1.4539	X1NiCrMoCu25-20-5	AISI 904L	UNS N08904 / Uranus B6
2.4360	NiCu30Fe	Monel 400	UNS N04400 / Alloy 400
2.4816	NiCr15Fe	Inconel 600	UNS N06600 / Alloy 600
2.4819	NiMo16Cr15W	Hastelloy C276	UNS N10276 / Alloy C 276
2.4856	NiCr22Mo9Nb	Inconel 625	UNS N6625
2.4858	NiCr21Mo	Incoloy 825	UNS N08825 / Alloy 825
3.7035	Ti 2	Titan 994	UNS R50400



Established in 1982, CFL is a world class specialist manufacturing company, offering unique engineered filtration and separation solutions to clients and partners around the globe.

We pride ourselves on the principles of developing and delivering innovative manufacturing techniques and exceptional products. Our team of mechanical and process engineers are called upon daily to support high-profile clients solve complex engineering tasks, enabling them to operate safely in extreme environments.

CFL expertise in the manufacture of high integrity filters, equipment and process internals allows us to support, and accomplish the challenging requirements set by our clients. We have a global network of agents and trading partners allowing ease of access to our range of products and services.

CFL products and equipment can be found in most industries including aerospace, automotive, chemical, defence, medical, mining, nuclear, oil and gas, pharmaceutical, power generation, and water.



Unsure of the correct filter or part for your application? **Just give us a call.**

We design, engineer and deliver

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