

Our company

Established in 1946, NIKUNI has been engaged in designing and manufacturing various industrial pumps and pump installations, semi-conductor production systems, semi-conductor test devices and optical devices. For nearly seventy years up to now, NIKUNI has been serving the Japanese, USA, European and Asia industries with high-quality products.

Our product line

NIKUNI consists its major pump business with Regenerative Turbine Pump, Centrifugal Pumps, Liquid-Ring Vacuum Pumps and High pressure Hydra-Cell Pumps. NIKUNI has been also developed pump-related systems as well as Hydro Cyclone Separator (VDF) and Coolant Filtration Systems (NAX Series) since decades ago and recently all of them are widely used in many countries.



NIKUNI CO., LTD.

www.nikunijapan.com

Headquarters:

843-5, Kuji, Takatsu-ku, Kawasaki, Kanagawa,
213-0032 Japan
Tel : +81-44-833-6500 : +81-44-811-2212

Sales office:

2F Inoue Bldg. No.3, 5-8-1 Futako, Takatsu-ku, Kawasaki,
Kanagawa, 213-0002 Japan
TEL +81-44-833-6500 FAX +81-44-833-6482

NIKUNI Filtration products catalogue



Overseas Subsidiaries Information

North & South America

Nikuni America, Inc.
1878 S. Elmhurst Rd., Mt. Prospect, IL 60056
Tel: (224) 404-4051 Fax: (847) 378-8007 info@nikuniamerica.com
Products supported : All products
Website : <http://www.nikuniamerica.com>

Taiwan

Nikuni Taiwan Co., Ltd.
No.71-56, Nanshi, Neighborhood 5, Nanshi Village, Linkou District,
New Taipei City, Taiwan, R.O.C.
Tel: +886-2606-9385
Products supported : All products

United Kingdom

Aeration and Mixing Ltd
Aizlewood's Business Centre, Aizlewood's Mill, Nursery Street,
Sheffield, S3 8GG, United Kingdom
Tel: +44-1302-215-156
Products supported: KTM for Dissolved Air Flotation System &
VDF Hydrocyclone Filters
Website : www.aerationmixing.co.uk

Thailand

NIKUSYTEC (Thailand) Co., Ltd.
9th Floor, Nanakorn Building,
99/349 Chaeng Wattana Road,
Laksi, Bangkok 10210
Tel: +66 81 8294794
Products supported : All products
Website : <http://www.nisystecthai.co.th>

Malaysia & Singapore

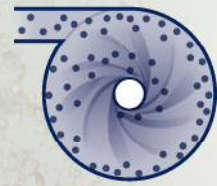
NIKUSYTEC PTE LTD.
26 Sin Ming lane #05-119 Midview City
Tel: +65-6742-3750
Products supported : All products
Website : <http://nikusystec.com>

India

MASS Global Trading Company
3/7, U-Block (Basement) DLF Phase-III Gurgaon-122001 Haryana INDIA
Tel: +91-124-406-7774
Products supported : KTM for Dissolved Air Flotation System & VDF Hydrocyclone Filters
Website : <http://www.massglobaltrading.com>



The Vortex Dynamic Filter is a media free coolant filtration system which achieves filtration through centrifugal force eliminating the need for disposable paper or cartridge filters

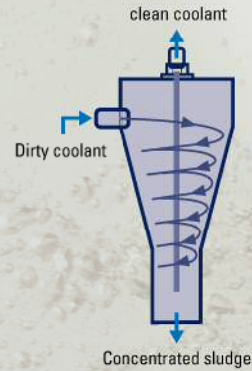


Fluid containing sludge flows from the supply pump into the VDF separator via the side port and through the inlet gallery, which is positioned tangential to the periphery at the top of the separator.

The fluid flows along the inner wall of the separator and the pressure energy is converted into rotational energy. Whilst turning under the strong centrifugal force, the heavier sludge descends the tapered body towards the narrow nozzle in the base of the VDF. After passing the nozzle the sludge is discharged into the sludge pod.

The discharged sludge rapidly loses its rotational force, precipitates concentrated in the sludge pod and stays deposited ready for discharging, either manually or via a solenoid dump valve.

Any ultra fine sludge which is unable to generate sufficient centrifugal force and descend down the inner wall of the separator, is discharged along with the cleaned fluid from the top port. During this process an area of low pressure is present in the centre of the separator.



Advantages

1. Maintenance-free operation with no resulting of industrial waste

- Running costs can be reduced significantly due to the operation which requires neither filter nor disposal of industrial waste.

2. Highly efficient, precision filtration

- At 0.2 MPa (2 Bar) supplied pressure, filtration performance of VDF reaches as high as 95% of the particles of 25 µm size and over 90% for 10µm.

3. Sludge disposal made easier by concentration of contaminated fluid

- Contaminated fluid and sludge are concentrated in the optional sludge pod to facilitate subsequent disposal.

4. Wide range of sizes and solutions

- Single unit sizes range between 10 to 300 (1000) L/min

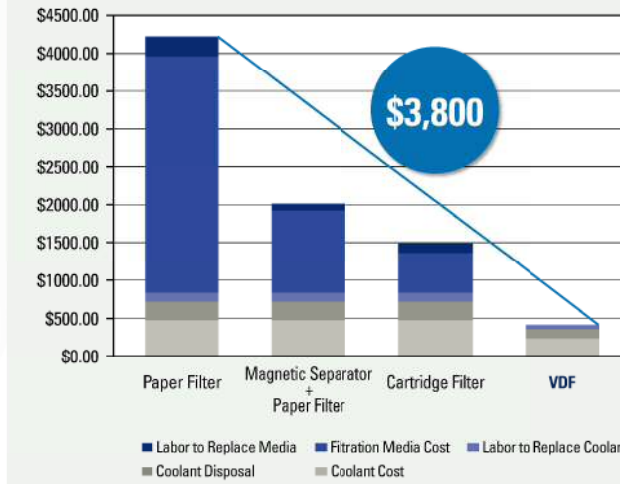
5. Stainless steel and Nylon made models are available

6. Filtering ferrous and non-ferrous materials

7. Cleaner coolant, reduce scratches or damage resulting improvement of NG rates

8. No foams or bubbles are produced by trapped air

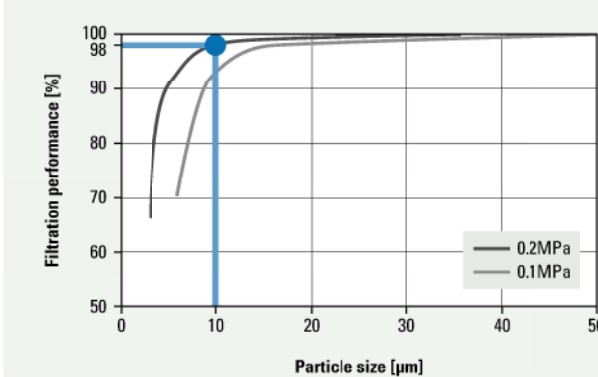
Comparison of the cost of VDF System vs. Other System



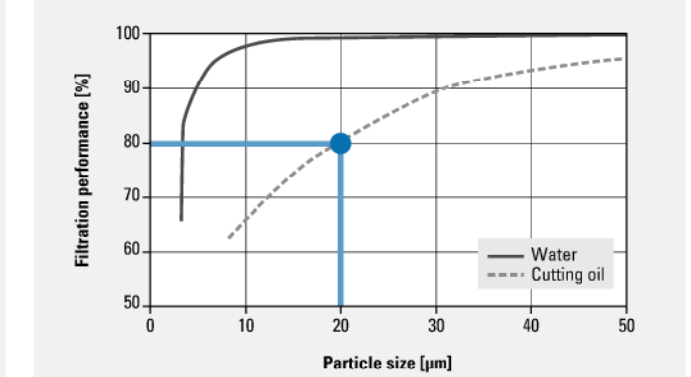
Yearly Costs	VDF	Paper Filter	Magnetic Separator + Paper Filter	Cartridge Filter
Filtration Media	\$0 No Filter Necessary	\$3,120 52 units at \$60 per unit	\$1,080 18 units at \$60 per unit	\$520 52 units at \$10 per unit
Labor for Media Replacement	\$0 No Maintenance	\$260 weekly 10 min. at \$0.50/min	\$90 every 3 weeks 10 min. at \$0.50/min	\$130 weekly 5 min. at \$0.50/min
Coolant Replacement (10% unit capacity)	\$240 2 times at \$120/replacement	\$480 4 times at \$120/replacement	\$480 4 times at \$120/replacement	\$480 4 times at \$120/replacement
Labor for Coolant Replacement	\$60 60 min. a replacement at \$0.50/min	\$120 60 min. a replacement at \$0.50/min	\$120 60 min. a replacement at \$0.50/min	\$120 60 min. a replacement at \$0.50/min
Dirty Coolant Disposal	\$120 2 times at \$60/disposal	\$240 4 times at \$60/disposal	\$240 4 times at \$60/disposal	\$240 4 times at \$60/disposal
TOTAL COSTS	\$420	\$4,220	\$2,010	\$1,490

Performances

Filtration performance vs. supply pressure



Filtration performance at 0.3MPa water vs. oil



Filtration performance per particle size at 0.2MPa supply pressure

Particle size	3µm	5µm	10µm	15µm	25µm
Aluminum (specific gravity: 2.7)	65	88	95	98	99
Cast iron (specific gravity: 7.21)	70	90	97	98	99

Case studies



Large flow rate filtration for centralized tank



VDF mounted on chip conveyor



Collecting non-ferrous sludge such like abrasive grains after magnetic filter

Filtration units equipped with VDF

C-CAT/SEL

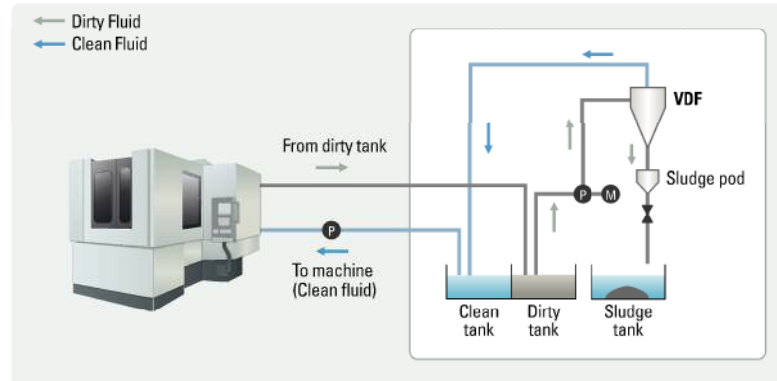
Affordable price with manual sludge discharge



C-CAT
C-SEL model after assembled



C-SEL Manual type

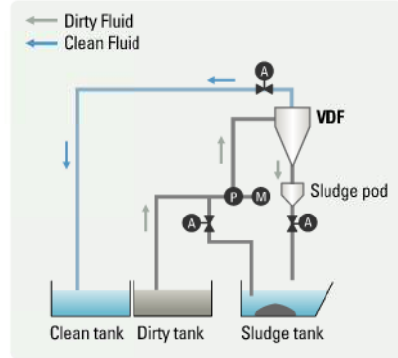


C-JAGUAR

Highly efficient filtration system with automatic purge system



C-JAGUAR
Semi-Automatic Type

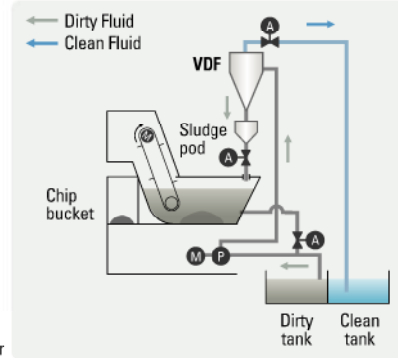


NAX-CS

The NAX-CS is fully automatic filtration system including automated purge and gather-up conveyor to remove settled sludge

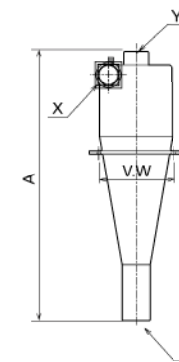


NAX-CS
Fully-Automatic Type with Conveyor

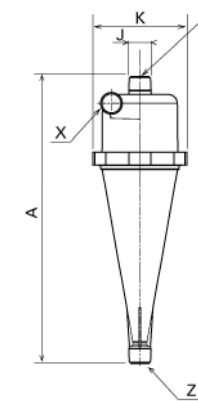


Dimensions table

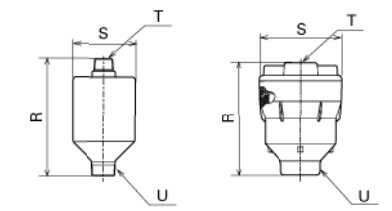
Stainless steel type



Resin type



Sludge pod



Stainless steel type

Resin type

Stainless steel type dimensions

Model	A	V.W	X	Y	Z	Weight (kg)
CL-10LW	160	-	Rc3/8	Rc3/8	Rc1/4	0.8
CL-20LW	214	-	Rc1/2	Rc1/2	Rc3/8	1.1
CL-30LW	250	95/55	Rc1/2	Rc3/4	Rc3/8	2
CL-50LW	313	99	Rc1/2	Rc1	Rc1	3.5
CL-70LW	313	99	Rc3/4	Rc1	Rc1	3.5
CL-100LW	430	120	Rc1	Rc1	Rc1	6
CL-200LW	596	170	Rc1.1/2	Rc1.1/2	Rc1.1/2	11
CL-300LW	716	200	Rc1.1/2	Rc1.1/2	Rc1.1/2	16
CL-1000	1365	440/160	JIS10K FF100A	JIS10K FF100A	JIS10K FF125A	130

Resin type dimensions

Model	A	J	K	X	Y	Z	Weight (kg)
CL-30MR	249	27	89	R1/2	R3/4	R3/8	0.2
CL-65MR	322	34	110	R3/4	R1	R1	0.4
CL-100MR	442	34	144	R1	R1	R1	0.8

unit: mm

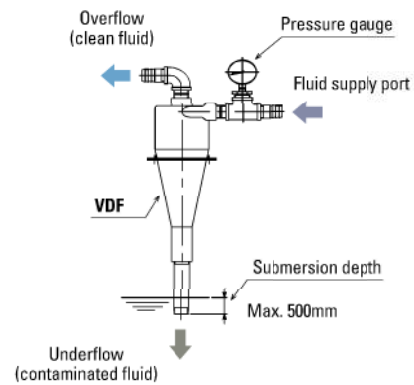
Sludge pod dimensions

Model	R	S	T	U	(ℓ)	Weight (kg)
SPD-100LW	210	112	R1	R1-1/4	1	2
SPD-300LW	278	160	R1-1/2	R1-1/2	3	3
SPD-1000	475	272	JIS10K FF125A	JIS10K FF50A	15	35
SPD-100P	163	130	Rc1	Rc1-1/4	0.8	0.6

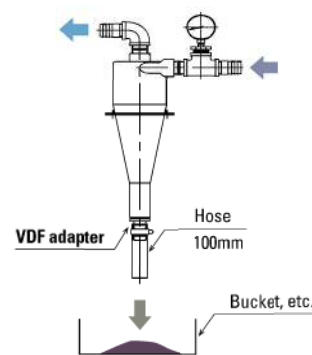
unit: mm

VDF underflow connection methods

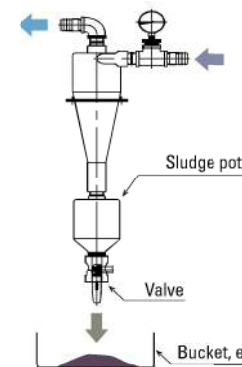
Using a waste discharge pipe submerged in fluid



Using a waste discharge pipe fitted with a VDF adapter, open to the atmosphere

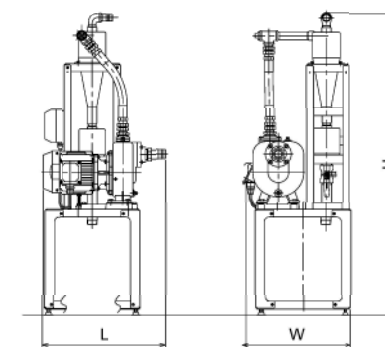


Using a discharge pipe fitted with a sludge pod, open to the atmosphere



Feature	Notes
Air will not be sucked in, preventing the formation of bubbles in the coolant tanks. Preferred method for installing a VDF unit	Fluid could be siphoned from one tank to another if the fluid level differs between the clean and dirty tanks, especially when the pumping operation stops
To be used when the discharge pipe is unable to connect submerged into the coolant tank. The internal diameter of the base port is reduced	It is possible air may be sucked in via the base port, which can lead to bubbles appearing in the cleaned coolant tank
A sludge pod reduces the volume of fluid discharged via the base port by concentrating the separated sludge	Open the discharge valve constantly so as to discharge the concentrated sludge

C-CAT

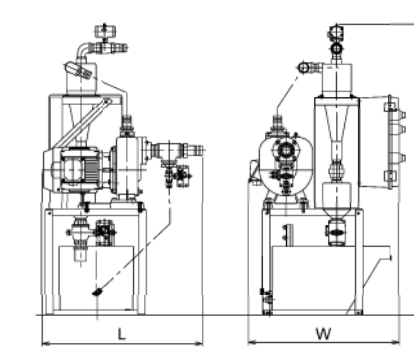


C-CAT dimensions

Model	L	W	H	Weight (kg)
C-CAT M30-5/6	410	450	1300	67
C-CAT M50-5/6	415	460	1340	69
C-CAT M70-5/6	528	465	1340	77
C-CAT M100-5/6	528	465	1355	82
C-CAT M200-5/6	772	538	1870	125
C-CAT M300-5/6	772	538	1903	130

unit: mm

C-JAGUAR

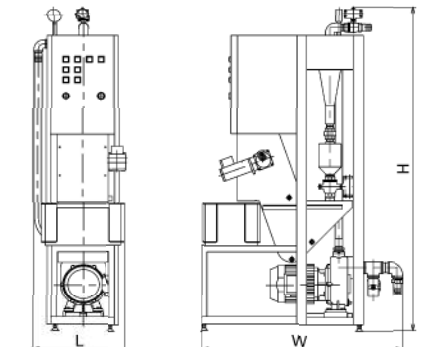


C-JAGUAR dimensions

Model	L	W	H	Weight (kg)
C-JAGUAR 30LW-5/6V	406	720	1180	77
C-JAGUAR 50LW-5/6V	415	725	1205	79
C-JAGUAR 70LW-5/6V	648	635	1205	87
C-JAGUAR 100LW-5/6V	648	635	1240	92
C-JAGUAR 200LW-5/6V	922	825	1935	145
C-JAGUAR 300LW-5/6V	922	825	1970	150

unit: mm

NAX-CSII



NAX-CSII dimensions

Model	L	W	H	Weight (kg)
NAXCSII 30LW-5/6	440	800	1145	131
NAXCSII 50LW-5/6	440	800	1560	136
NAXCSII 70LW-5/6	440	940	1560	147
NAXCSII 100LW-5/6	440	940	1600	152
NAXCSII 200LW-5/6	810	1050	1865	235
NAXCSII 300LW-5/6	810	1050	1900	240

unit: mm

Filters & dries coolant impurities
All in one compact unit



**FILTRATION
WITHOUT
DOWNTIME!!**

Easy to Use

Remove both sediment and floating contaminants in the same process

Quick

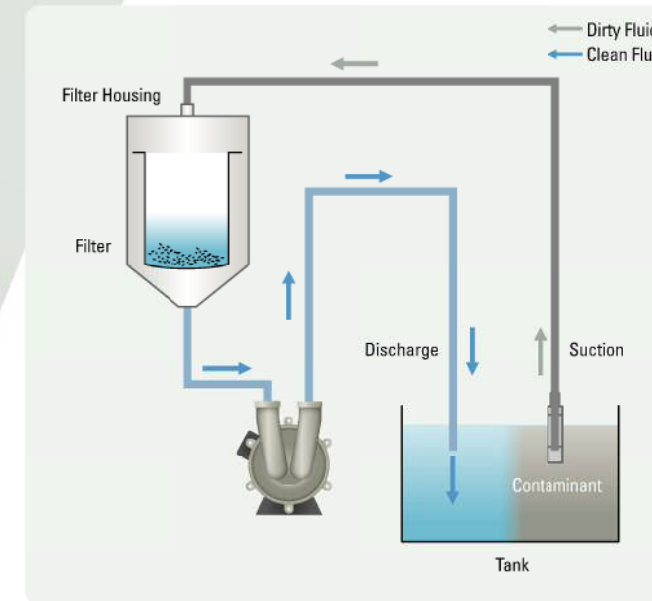
Simple and compact design with non-disruptive operation

Clean

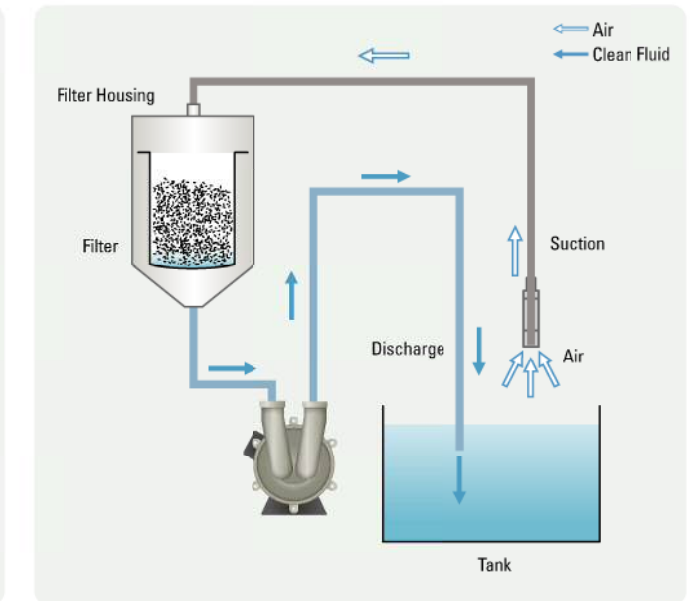
Dry and collect particulates in filter bag for clean and convenient disposal

Schematic diagram

Contaminant "Removal" Process with Continuous Liquid Recovery



Contaminant "Drying" Process with Continuous Liquid Recovery



After dehydration



Dried copper fines



Dried aluminum fines



Dried steel (bearing) fines

*Final state of dried contaminants depends on contaminant and liquid type

Highlights

1. Capable of filtering both sediment and floating contaminants with special gas-liquid two phase flow pump.
2. Compact and portable design to easilly filter various machines and locations.
3. Continuous removal and replenishment of coolant / liquids:
Non-interruptive filtration reducing costly downtime.
No large filtration tank required or risk of overflow and damage.
4. Debris and fine particulates dried for low cost disposal and increased coolant life.
5. Bag filter for convenient handling and disposal.

Specifications

Flow rate	30L/min (8 GPM) max
Power	100VAC, 0.4kW (1/2HP), 8.4A

Dimensions	
Weight	45kg (99 lbs)
Filter Option	20, 40, 100 µm



Unit : mm