

VERDERHUS

## VERDERHUS

### Screw channel pumps

**Any questions?** You may still have questions and/or comments after reading this brochure. Please feel free to contact us on +44 (0)1924 221 000. You can also respond via email to [info@hus-pumps.com](mailto:info@hus-pumps.com). For more information about Verderhus pumps please visit our website [www.hus-pumps.com](http://www.hus-pumps.com)

VERDERHUS



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**VERDER**  
passion for pumps



Verderhus screw channel pumps  
Swiss quality!



## Verderhus Screw channel pumps

*Verderhus screw channel pumps are excellent pumps for media containing long fibers. Verderhus pumps offer a real guarantee: less wear, longest lifetime. Also for sludge and slurries, paper & pulp, energy power stations and many other high solids containing products the Verderhus pump is an excellent solution. Many thick and polluted fluids are very hard to pump. High energy cost and huge maintenance cost are the main issues when pumping these fluids. The screw impeller has an open channel impeller design. Because of the combination of an open channel and the centrifugal forces high flow rates and a huge efficiency are accomplished.*



To lower operating cost Verderhus has developed a screw channel pump targeted on high efficiency and low operation cost. The special impeller ensures a high efficiency (also when pumping thicker fluids) and a wide passage/outlet. No problems anymore with long fibers that may tangle and wrapped. Because of the very clever and solid design of the pump, maintenance cost are very low.

Flow range	max 1500 m <sup>3</sup> /h
Head	max 55 mwc

### Features and advantages

- High efficiency, BEP > 70%
- Insensible for clogging, also when pumping long fibred fluids
- Insensitive for viscosity changes
- Suitable for gas containing media
- Low energy cost, almost constant - also at higher flow ratings
- Low maintenance cost
- Double mechanical seal with controllable oil chamber

- Dry or submersible pumping
- Smooth pumping action for eg greeneries and fisheries
- No emulsification
- Gentle handling of fluids

Screw channel pumps are being used in a wide range of industrial areas:

#### Water treatment

Thick sludge, thickened media, slurries, sewage, waste water

#### Food & Beverage

Diatomaceous earth, slurry, yeast, sugar, gelatin, hop, corn, malt

#### Agriculture

Chicken necks, bones, compost, biogas, pet food

#### Other

Paper & pulp, thick fluid streams in power stations

## Working principle

An impeller that is formed as a corkscrew lays in a cone shaped casing. The impeller has also the working principle of a corkscrew. Through the rotation of this screw the fluid is literally being pushed away.

The cone form of this pump ensures a blockage free operation. The efficiency of the pump is becoming better when the viscosity of the fluid becomes higher. The pump can handle solids up to 13%.

Comparative tests have shown that the patented Verderhus screw channel pump achieves the best efficiency in comparison with other pump systems of the same size.

### OVERVIEW OF PUMP MODELS

The Verderhus channel screw pump is available in 6 sizes from DN50 – 250. With its numerous options the pump offers a high variety of possibilities to serve a wide range of application areas.

Flow range	max 1500 m <sup>3</sup> /h
Head	max 55 mwc

#### Model B Close coupled

**Type BH Base plate mounted**  
close coupled on horizontal base plate



#### Type BV Vertical execution

Close coupled on a duck foot standard



#### Model T Submersible

**Type TA Submersible pump**  
For water purification with an automatic coupled pedestal



#### Type TP Portable submersible pump on foot

**Type TV Vertical Spindle pump / cantilever**  
sealless pump with base plate



#### Model L Long coupled

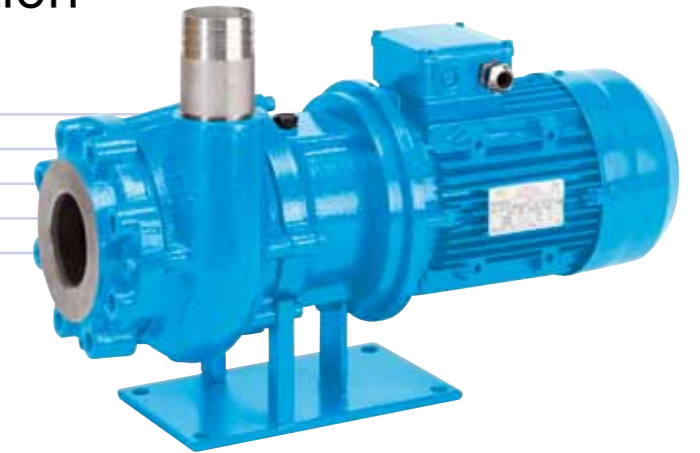
**Type L Standard long coupled**

**Type LV Long coupled with V belt drive**



## Materials of construction

	STANDARD	STAINLESS
Housing	GG	SS 316 (1.4408)
Impeller	GGG	SS 316 (1.4408)
Back housing	GG	SS 316 (1.4408)
Shaft	1.4021	SS 316 (1.4408)



## Options

### Sealing

- Wear resistant double mechanical seal with oil chamber, in standard execution with hard metal seal surfaces at the fluid side
- Gland packing

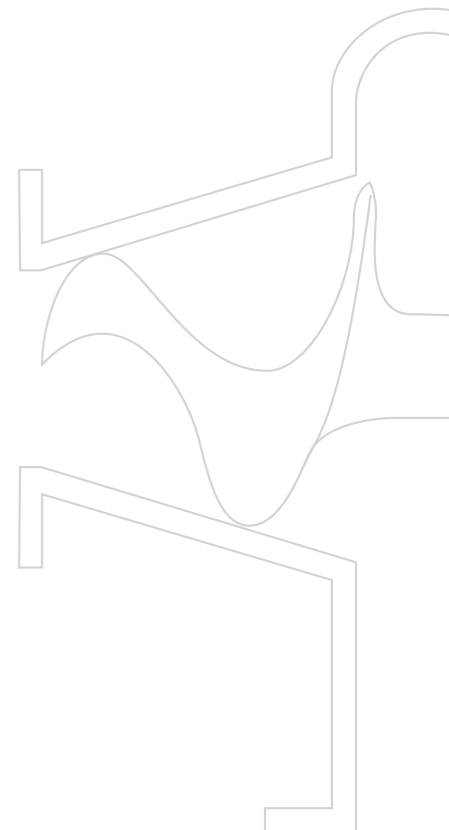
### Motors

The Verderhus pumps are as a standard executed with IEC motors. Of course, a wide variety of motor choices is available to serve your special needs.

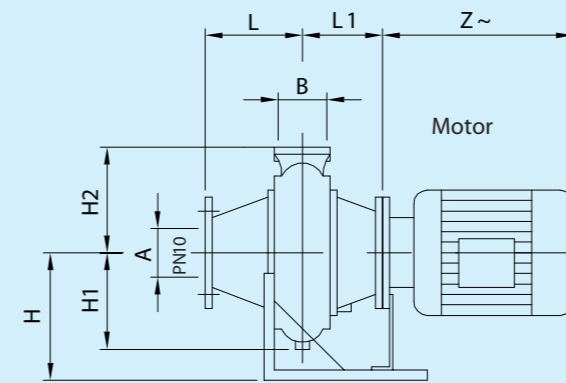
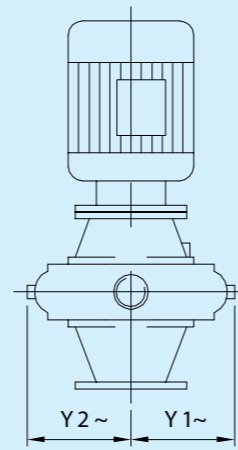
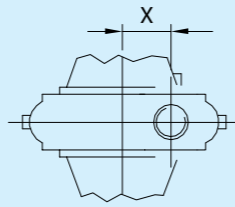
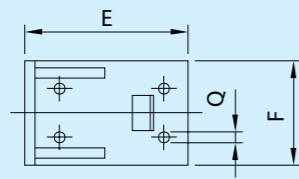
### Options

To meet with the most difficult media and to offer best chemical resistance Verderhus pumps have a wide variety of options. For highest abrasive, corrosive and cavitation resistance Verderhus offers following options.

- Gas nitrited impeller and pump casing up to 64HRC at 0,5 mm
- Flame hardened impeller
- Plasma nitrite rustproof impeller
- Impeller in SS316
- Trimmed impeller
- Wetted parts in SS316
- Rilsan coated
- PU coated
- Cutting device grooves on the inlet conus
- ATEX certification



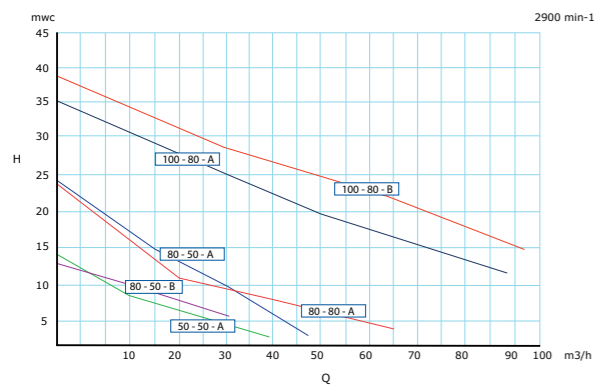
# VERDERHUS B SERIES



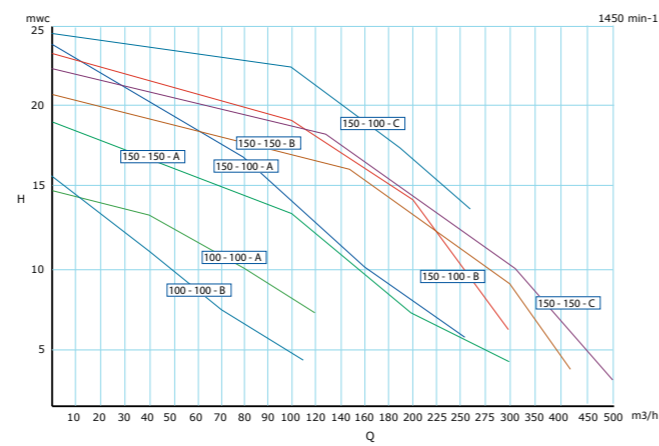
## Technical details

Type	Connections		Flow Discharge	Solids in mm	rpm	Max.m3/h	BEP		Impeller Type	Motor Max. kW
	Suction	Discharge					$\eta$	Qopt.(m3/h)		
50-50-A	50	50	~40	2900	39	62	22	A	1.5	
80-50-A	80	50	~40	2900	48	71	31	A	1.5	
80-50-B	80	50	~40	2900	32	69	25	B	3	
80-80-A	80	80	~64	2900	65	73	42	A	3	
100-80-A	100	80	~64	2900	87	62	56	A	5.5	
100-80-B	100	80	~64	2900	96	62	69	B	5.5	
100-100-A	100	100	~80	1450	108	78	72	A	5.5	
100-100-B	100	100	~80	1450	118	73	79	B	4	
100-100-C	100	200	~80	2900	216	72	108	C	17	
150-100-A	150	100	~80	1450	252	76	170	A	5.5	
150-100-B	150	100	~80	1450	295	76	190	B	5.5	
150-100-C	150	100	~80	1450	270	69	155	C	5.5	
150-150-A	150	150	~120	1450	320	76	210	A	15	
150-150-B	150	150	~120	1450	440	77	280	B	15	
150-150-C	150	150	~120	1450	500	77	300	C	22	
200-150-A	200	150	~120	1450	620	78	400	A	30	
200-150-B	200	150	~120	1450	720	78	490	B	37	
250-200-A	250	200	~160	1450	1030	78	750	A	90	
250-200-B	250	200	~160	1450	800	75	530	B	75	
250-200-C	250	200	~160	1450	950	75	630	C	55	

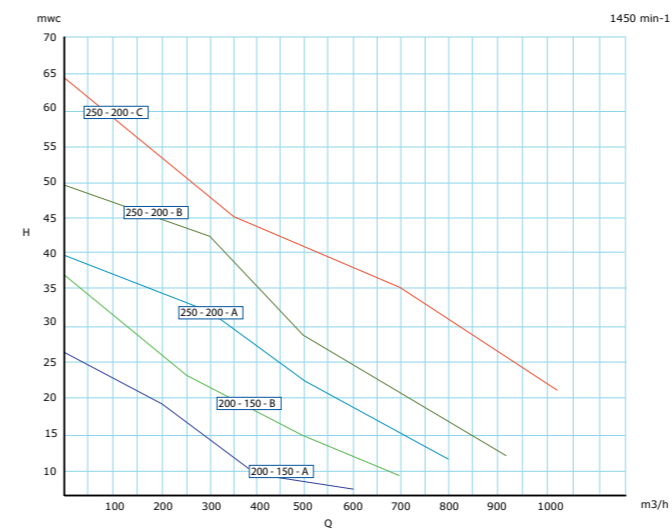
Type	A	B	E	F	H	H1	H2	L	L1	Q	X	Y1	Y2	Z~/kW motor/class	
														IEC	SG 1.0kg/dm <sup>3</sup>
50-50	50	2"	250	150	160	110	105	98	164	14	70	110	110	250/1.1	70/80
80-50	80	2"										98	115	270/1.5	90
80-80	80	80	250	150	160	120	150	98	170	14	0	98	115	270/2.2	90
100-80	100	80	350	300	240	160	220	135	223	14	0	170	145	270/1.5	90
									285					420/5.5	132
100-100	100	100	400	300	290	188	250	173	224	14	0	202	170	320/3	100
									300					420/5.5	132
150-100	150	100	500	400	330	190	250	257	300	14	0	200	170	492/11	160
									300					533/15	160
									251					400/5.5	132
150-150	150	150	500	400	330	240	300	253	296	14	0	256	196	492/11	160
									296					533/15	160
									262					400/5.5	132
200-150	200	150	750	500	400	225	300	340	345	20	0	225	225	669/22	180
									370					669/30	200
									427					725/37	225
									345					492/15	160
250-200	250	200	750	500	400	365	450	390	443	20	0	414	320	742/55	250
									443					938/75	280
									443					938/90	280



Flow range < 100 m<sup>3</sup>/h



Flow range 100-500 m<sup>3</sup>/h



Flow range > 500 m<sup>3</sup>/h



## Applications

- Agriculture
- Beverage industry
- Breweries & Malteries
- Circulation of biogas
- Coal-fired, oil-fired and nuclear power plants
- Composting and recycling processes
- Food
- Gelatin manufacture
- Paper industry
- Pet food
- Slaughter houses
- Sugar industry
- Sewage sludge recirculation
- Sewage thickening systems
- Sewage water treatment plants
- Waste burning power stations
- Wastewater treatment plants

## Pump Coding System

H	B	BH	80	80	B
Brand	Series	Model	Ø inlet	Ø outlet	Impeller Form
H = Verderhus	B = Standard	BH = close coupled horizontal BV = close coupled vertical TA = submersible + pedestal TP = submersible portable TV = vertical spindle L = long coupled LB = long coupled V-belt	50 80 100 150 200 250	50 80 100 150 200 250	A B C



## Pumping Quartz Sand



A Bulgarian company, located near Sofia, is specialized in mining and processing of industrial minerals in surface and underground, such as quartz sands, feldspars and pegmatite's, fire clay, fluorite, quartz and asbestos.

### The process

If the raw materials are washed and being sieved, the water with 13% quartz sand content is pumped to a sedimentation area.

### The problem

Up to last year, the mining company was using a vortex centrifugal pump for abrasive duty with an open impeller in a back pull-out construction.

Due to the very abrasive water with 13% quartz sand, causing critical wear to the rotor, the mining company had to change the rotor every week.

### The solution

Verderhus offered the mining company a Verderhus Type HSBH150-100A pump with soft Polyurethane coating.

After 4 months of intense using the inspection of the internal parts in contact with the medium shown minimum wear. The customer is very satisfied with the choice he made.

## Pumping Malt



A German Brewery, located near Munich, is producing malt. Malt is an extremely difficult medium to be pumped.

### The process

The malt had to be pumped with 120-130 m<sup>3</sup>/h and has to overcome a geodetic height of 10 – 12 meters.

### The problem

Sometimes the pump is stopped for several reasons. During the stop and immediately after restarting the pump again, the malt and the liquid change dramatically quick into dry content.

The formerly used semi-open vortex impeller pump was clogging most of the times when the pump was restarted again after stopping.

To unblock the pump it needed to be opened and to be cleaned. And not only the pump but also the piping system.

### The solution

The specialists of Verderhus advised a Verderhus 150-100-B pump on a trial base.

Tests showed that the pump is restarting always without problems since then and the customer is so satisfied that he ordered 4 more Verderhus screw channel pumps.





## The Verder Group Passion for pumps

*Liquids handling is the original passion of the Verder Group.  
Its liquids handling companies supply a wide range  
of first-class pumps for a variety of industrial purposes.*

Verder Liquids is active in many industrial sectors: chemical and process industry, food, pharmaceutical, water treatment, and environmental industries.

Within these industries pump requirements vary enormously and applications and needs change frequently. In order to ensure we provide the best solutions. We analyse and monitor industrial trends as well as maintaining close relationships with our customers.

### **International presence**

The Verder Group Liquids division has affiliates in:  
Austria - Belgium - Bulgaria - China - Czech Republic - France - Germany - Great Britain - Hungary - The Netherlands - Poland - Romania - Slovakia - South Africa - Switzerland - USA

### **Your advantages**

The advantages of working with us are clear, we offer you:

- **Single-source solutions:** Verder's wide and complementary range of pumps allows you to source your entire pumping needs from one company, reducing your costs;
- **Expertise:** years of providing pumping solutions to industry have given us valuable expertise and knowledge which we are able to use to supply the most appropriate and reliable pumps;
- **International affiliated company:** our size gives you the confidence that you are dealing with a powerful international pump company and if your project involves overseas work then you can profit from our international network of companies.

### **Contact Verder**

If you would like to know more about our pumping solutions then please visit our website [www.verder.com/liquidshandling](http://www.verder.com/liquidshandling). You will find the full range of our pump ranges as well as application stories, latest news and the contact details of our local specialist.



Verderhus screw channel pumps  
Swiss quality!

