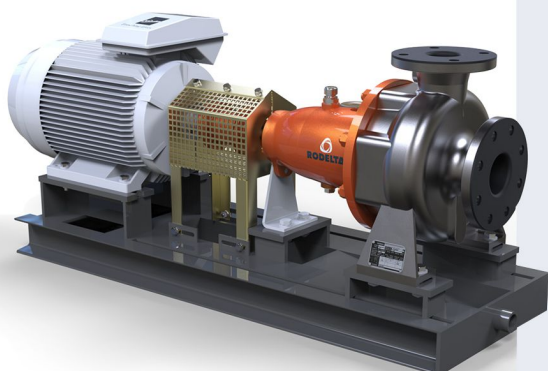




Rodelta FN (Vortex OH1)

The pump type FN (OH1) is a single stage end suction pump with radially split case and vortex recessed impeller. It is designed to handle fluids containing large solids without clogging (up to the full diameter of the discharge); fragile solids, such as crystals, carbon and even live shellfish; abrasives; as well as long fibrous materials. The ideal solution for low shear applications.



The FN series consists of single stage pumps with a vortex impeller, which prevents the flow of liquid from being impaired by solids.

Further features:

- * Practically no damage to the products contained in the liquid
- * Very few parts susceptible to wear, consequently low maintenance costs
- * Standard replacement parts available ex stock
- * Optional: Pump housing equipped with rubber liner for reducing wear in case of wear sensitive liquids

Capacity range

The overall capacity range provides for discharge rates up to 1000 m³/h and delivery heads up to about 70 m. The temperature of the liquid may vary between -20 and +110°C.

Mode of operation

The vortex impeller produces turbulence in the casing which extends into the suction pipe. As a result of this, a strong suction effect is imparted on the liquid-solid mixture. The centrifugal force caused by the turbulence transports the solids to the delivery branch within almost a single revolution. The shape of the casing walls enables a high percentage of the solids to be carried with air or gas. Since the medium being handled does not flow through but alongside the open disc impeller, blockage is completely ruled out. The solids entrained with the liquid have hardly any contact with the impeller and are also not damaged in any other way.

Applications

Vortex pumps are especially suitable for the transport of liquids having admixtures of a brittle, fibrous or erosive character in the chemical, food and semi-quarry industries.

They offer an expedient solution for the handling of so-called difficult liquids, such as those containing.

- * **waste products**
any kind of municipal or industrial effluent

* **fibrous masses**

textile, leather and rubber shreds, wood chips, straw and pulp masses, chicken feathers, pigs bristles, etc.

* **viscous masses**

old paper, pasty substances, juices, starch

* **erosive materials**

sand, gravel, coal, coke

* **vulnerable products**

vegetables, fish, crystals, etc.

Design features

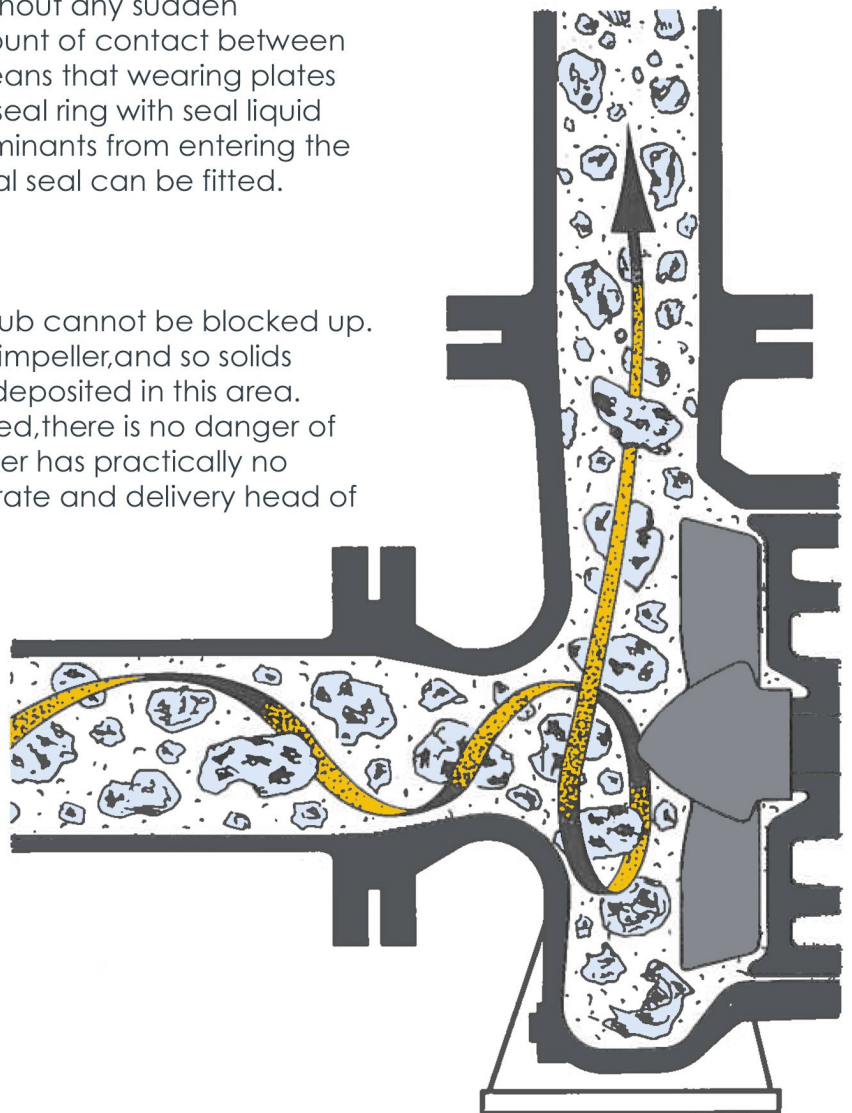
The pumps, which are designed according to the unit construction principle, consist of only three major components, namely the casing with cover, the vortex impeller and the bearing pedestal with shaft.

Casing

The casing is provided with a large regular passageway which facilitates unrestricted flow without any sudden change of direction. The limited amount of contact between the medium and the casing walls means that wearing plates and sealing rings are not required. A seal ring with seal liquid connections prevents air and contaminants from entering the stuffing-box. If required, a mechanical seal can be fitted.

Vortex flow

The open impeller with streamlined hub cannot be blocked up. There is no underpressure behind the impeller, and so solids entrained with the liquid cannot be deposited in this area. Due to the large clearances employed, there is no danger of seizing up. Normal wear of the impeller has practically no detrimental effect on the discharge rate and delivery head of the pump.





RODELTA®

Standard materials

The pumps are available in the following standard material classes:

Class of material

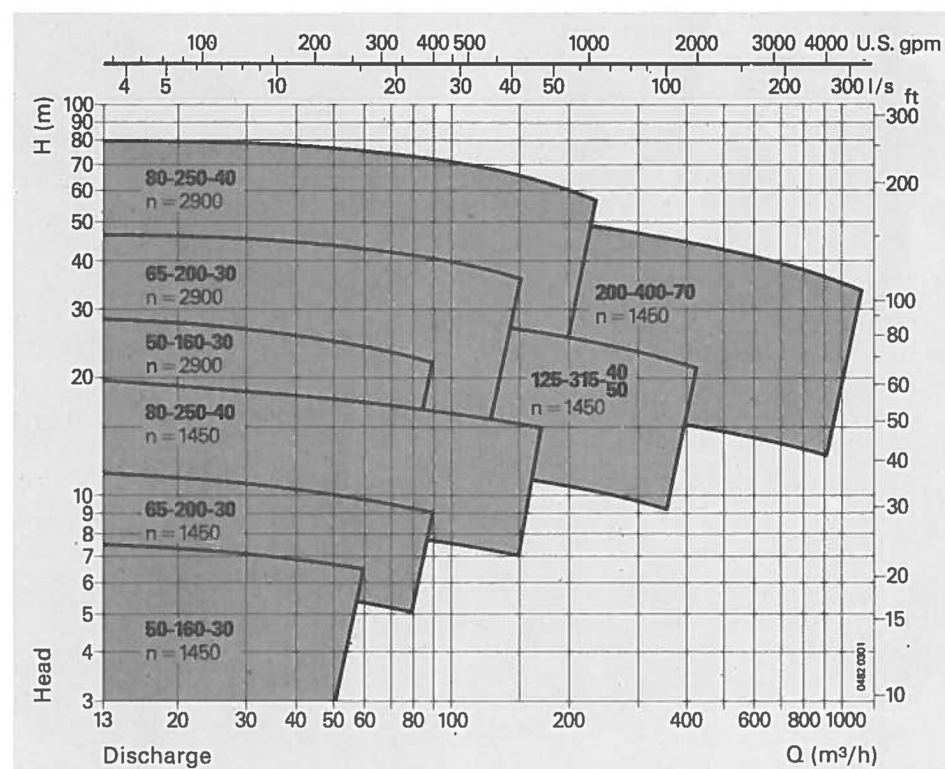
Component	1,1,4	8.8.4
Casing	Cast iron	CrNiMo cast steel
Impeller	Cast iron	CrNiMo cast steel
Stuffing-box cover	Cast iron	CrNiMo cast steel
Shaft	CrNiMo steel	CrNiMo steel
Shaft protection sleeve	CrNiMo steel hard chromed	CrNiMo steel, hard chromed
Bearing support	Cast iron	Cast iron

Other materials available on request.

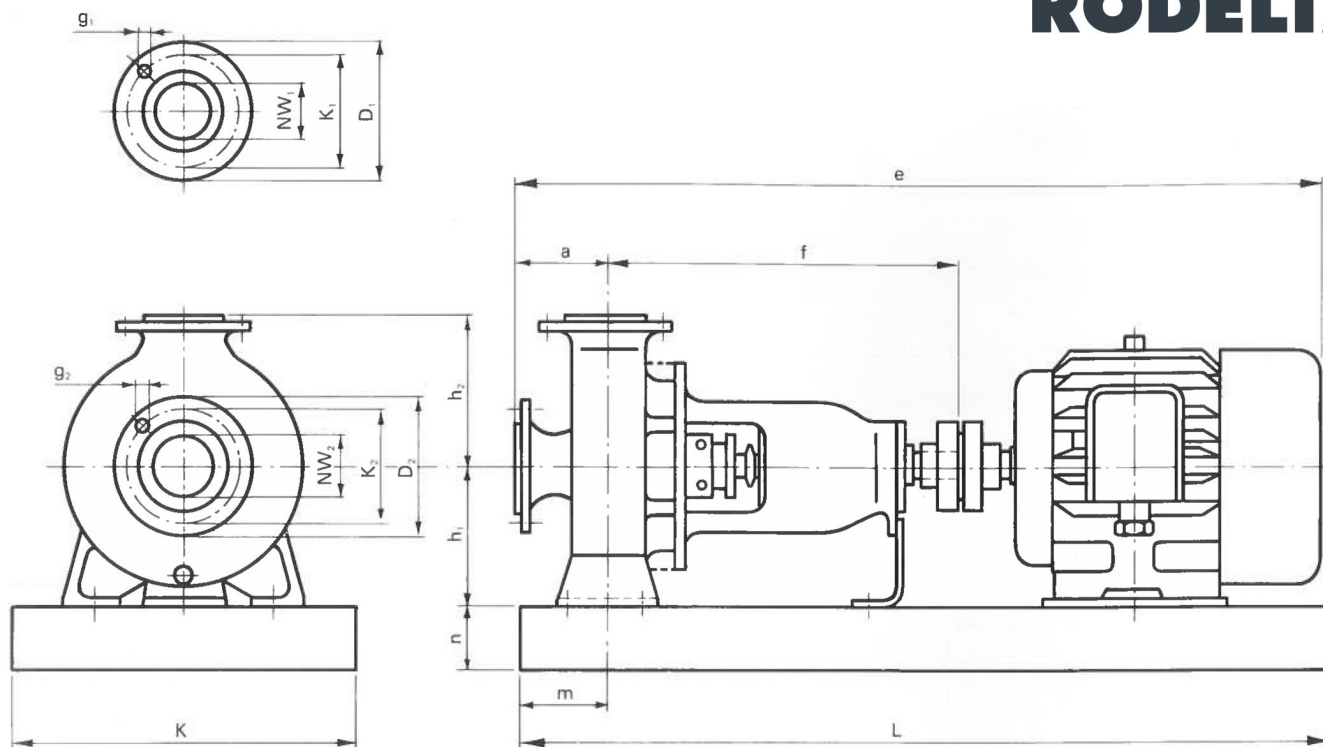
Bearing pedestal

The pump shaft is seated in two robust, grease-lubricated ball bearings, and protected in the stuffing-box by means of a replaceable shaft sleeve. The bearing space is hermetically sealed with V-shaped rings. The bearing pedestal and impeller can be removed as an integral unit in the direction of the drive side. As a consequence of this, the pump can remain in situ, and there is no need to disconnect any of the pipework.

Capacity range



The bold figures in the various fields (i.e. 50-160-30) indicate the pump size. The figures in fine print below (i.e. 2900) indicate the rev/min.

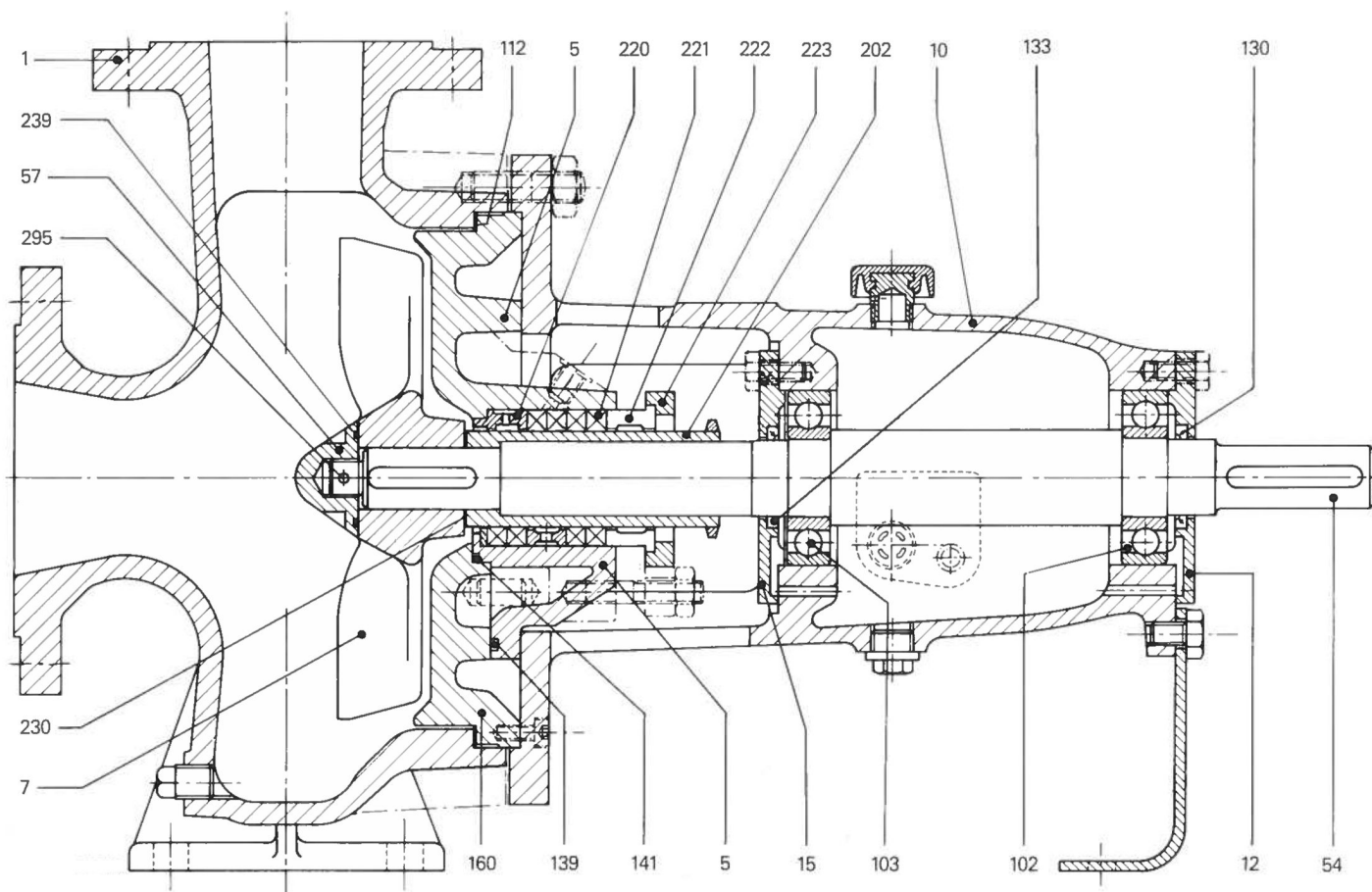


Type FN	Brides DIN 2533 PN16								Non spacer coupling								Motor I.E.C. IP44		
	NW1	K1	D1	ZXG1	NW1	K2	D2	ZXG2	a	e	f	h1	h2	k	l	m	n		
50-160-30	50	125	165	4x18	65	145	185	4x18	100	920	420	160	180	430	810	65	55	80-112M	
										1140				360	990		60	132S-160M	
										1185				425	1090		60	160L	
65-200-30	65	145	185	4x18	80	160	200	8x18	125	955	430	180	200	430	810	80	55	80-112M	
										1175					1000		60	132S-160M	
										1280					1090		60	160L-180L	
										1340					1230		65	200L	
80-250-40	80	160	200	8x18	100	180	200	8x18	140	1200	555	200	225	510	1100	95	70	90S-132M	
										1420					1230		65	160M-180L	
										1480				520	1400		85	200L	
										1555								225S-225M	
										1640							110	250M	
										1765				700	1600		125	280S-280M	
125-315-40	125	210	250	8x18	150	240	285	8x22	165	1615	590	280	315	700	1400	115	100	132S-225M	
125-315-50	125	210	250	8x18	150	240	285	8x22	165	1850	616	280	315	700	1600	115	125	250M-280M	
										1985					1800		160	315S-315M	
200-400-70	200	295	340	12x22	250	355	405	12x27	300	2270	900	400	425	700	1800	175	125	225S-250M	
										2405					2000			280S-315M	

Dimensions in millimeters,
not binding

Direction of rotation "clockwise".
facing driven end

Sectional drawing



List of parts

1 Pump casing	57 Impeller nut	139 O-ring	221 Gland packing
5 Stuffing-box cover	102 Radial ball bearing	141 O-ring	222 Stuffing-box insert
7 Impeller	103 Radial ball bearing	160 Cover for stuffing-box cooling chamber	223 Gland
10 Bearing bracket	112 Gasket	202 Shaft sleeve	230 Gasket
12 Bearing cover	130 Radial shaft seal	220 Lantern ring (lantern neck bush)	239 O-ring
15 Bearing cover	133 Radial shaft seal		295 Pin
54 Pump shaft			

Features

Volute type, OpenVortex type impeller end suction pump suitable for high solid densities/abrasive particles

Capacity @ BEP

Upto 450 m³/hr

Head

Upto 60 m

Temperature range

-20 to 170 °C

Discharge pressure

upto PN 10

Material (Casing/Impeller)

Cast Iron, Bronze, SS, Duplex, Super Duplex

Nozzle Orientation (suc/dis)

Top Center-line discharge(self venting)

Standard Motor Sync. Speed

1000/1500/3000 rpm

Options

Gland packing / Mechanical Seal

Flange drilling standard

BS EN/DIN/ANSI /ASA

