Meccaniche Idroelettriche Service Arzignano

CRD

Split casing centrifugal pumps

		Specifications:
Capacity	**Q**	**100 m^3/h up to 3200 m^3/h**
Head	**H**	**up to 170 m**
Max operating pressure	**P**	**up to 25 bar**
Work temperature	**t**	**up to 105 °C**
Rotation speed	**V**	**up to 1760 1/min**
Size		**from DN 125 to DN 350**

Misa is a leading Italian company in the production of pumps and in the field of the design and construction of large water pumping plants and power generation stations.

It can offer highly skilled and specialized staff able to meet the requirements from the different application sectors with high quality deliverables guaranteed by a system according to EN ISO 9001 standard. It chose to operate also in compliance with UNI EN 14001 and 45001 and gained the SOA qualifications to enable the participation at public tenders.

MISA is able to provide complete cycle solutions, from design, construction, commissioning for a supply on turn-key plant. The possibility to produce some plant parts involves the company quite further of the simple supply.

Description

Misa **CRD** pumps are single stage split casing centrifugal pumps with double suction radial impeller, suitable for horizontal or vertical installation. Connection flanges according to ISO, DIN, BS and ANSI.

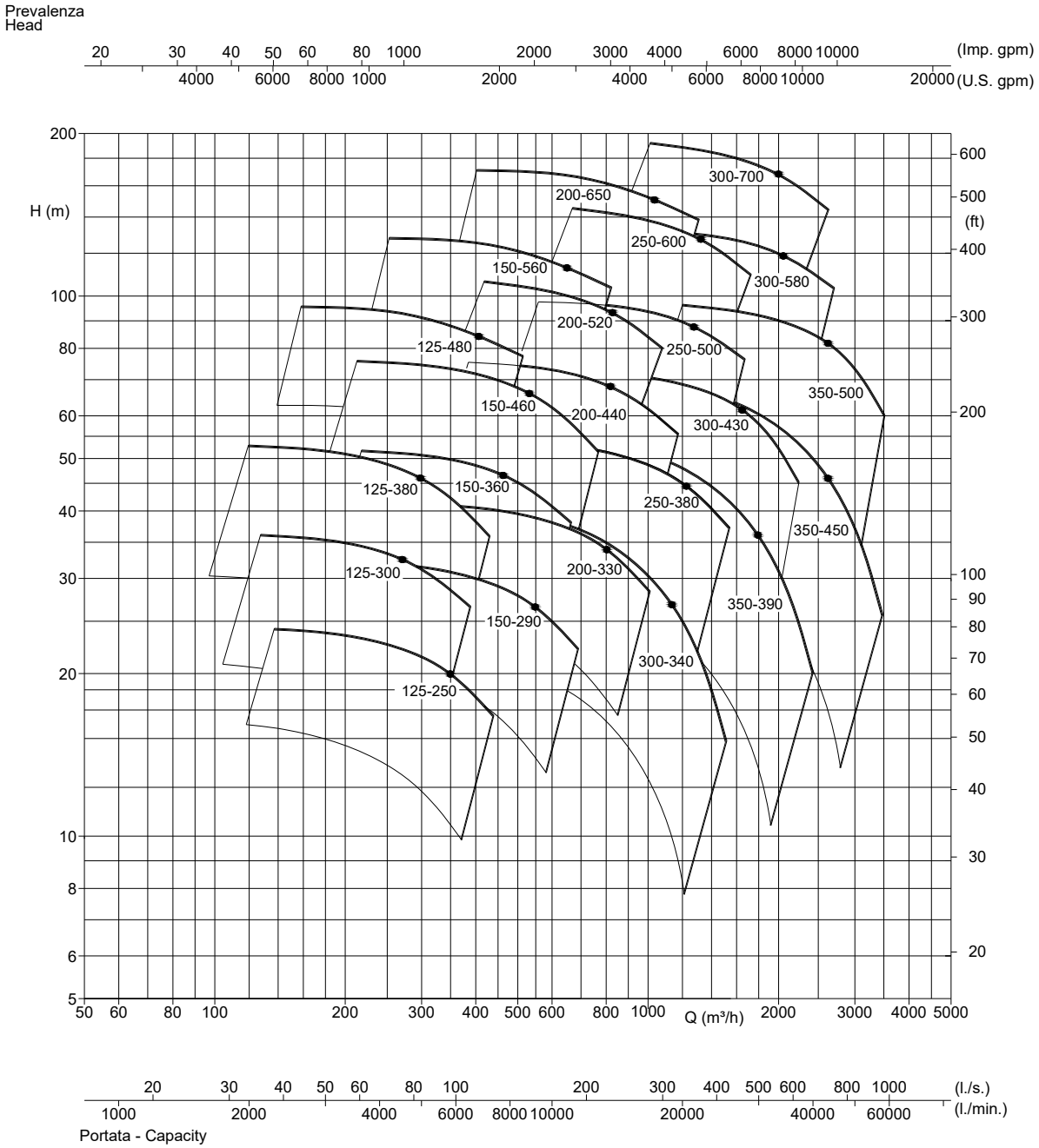
Suitable for general service applications, pumping stations, irrigation and drainage plants, power and water supply for the industry, fire-fighting systems, as well as general applications in the petrochemical industry.

Designed with special care to the hydraulic efficiency, the structural strength and the easy maintenance.
The volute design and the blade profile impeller ensure high efficiency and low NPSH values, thus achieving a high performance level.

Each pump is provided with a series of electrical motors with different power levels which allow to satisfy the most demanding applications and to achieve the best values of Capacity/Head. The electrical motors are in conformity with IEC, with protection value IP55 and insulation class F, except for different requests.

Hydraulic performance range 1480 1/min

Capacity	Q	from 100 m^3/h up to 3200 m^3/h
Head	H	up to 170 m
Max operating pressure	P	up to 25 bar
Work temperature	t	up to 105 °C
Rotation speed	V	up to 1760 1/min
Size		from DN 125 to DN 350



Construction characteristics

Pump casing in two parts, axially split from the shaft, for vertical or horizontal installation. Suction and delivery flanges according to ISO, DIN, BS or ANSI, mounted in the lower part of the casing.
It is possible to remove the upper half of the casing to allow the removal of the rotating part, in order to carry out the maintenance operations with no need to disconnect the pump from the plant.

Double inlet, closed radial impeller with well balanced axial thrust. Wear rings optional.

Robust shaft, fully protected from the pumped liquid, held in position by two supports where the ball bearings are mounted.

In horizontal execution **H**, the bearings are radial ball bearings and radial cylindrical drive end. In standard execution they are grease lubricated. It is possible to mount reinforced ball bearings with oil lubrication.

In vertical execution **V**, the pump has a supporting bearing in the lower part opposite drive end. This

bearing is lubricated by the pumped liquid or by clean compatible external source.

The oil lubrication is possible for horizontal execution pumps only.

Shaft seal with non cooled packing gland with or without injection of barrier liquid.
Normalized mechanical seal according to DIN 24960, simple, balanced, with operative pressure > 16 bar.
In correspondence of the seal housings, the shaft is fitted with changeable protection bushes.

The basement is fully made of electrically welded steel and it is fitted with a joint-cover. The joint is elastic type with or without spacer.

Direct drive by electrical motor through elastic joint. Direction of rotation for horizontal execution, standard anticlockwise drive end, optional clockwise with opposite drive end.

Different drive systems can be supplied, like internal combustion or hydraulic turbine engine etc..

Materials
(depending on the characteristics of the pumped liquid)

Pump casing	spheroidal and/or high quality cast iron, nickel-resist cast iron, bronze, chrome steel, stainless steel, duplex steel
Impeller	spheroidal and/or high quality cast iron, nickel-resist cast iron, bronze, chrome steel, stainless steel, duplex steel
Wear rings	bronze, chrome-nickel steel, chrome steel, stainless steel, duplex steel
Shaft	alloy steel, stainless steel, duplex steel

Characteristics

The CRD pumps are available in 22 sizes.
With a modular setting we obtain only 5 different shaft rotors dimensions, which make possible to compose all the pumps sizes.
Only the impellers will vary depending on the characteristics required.

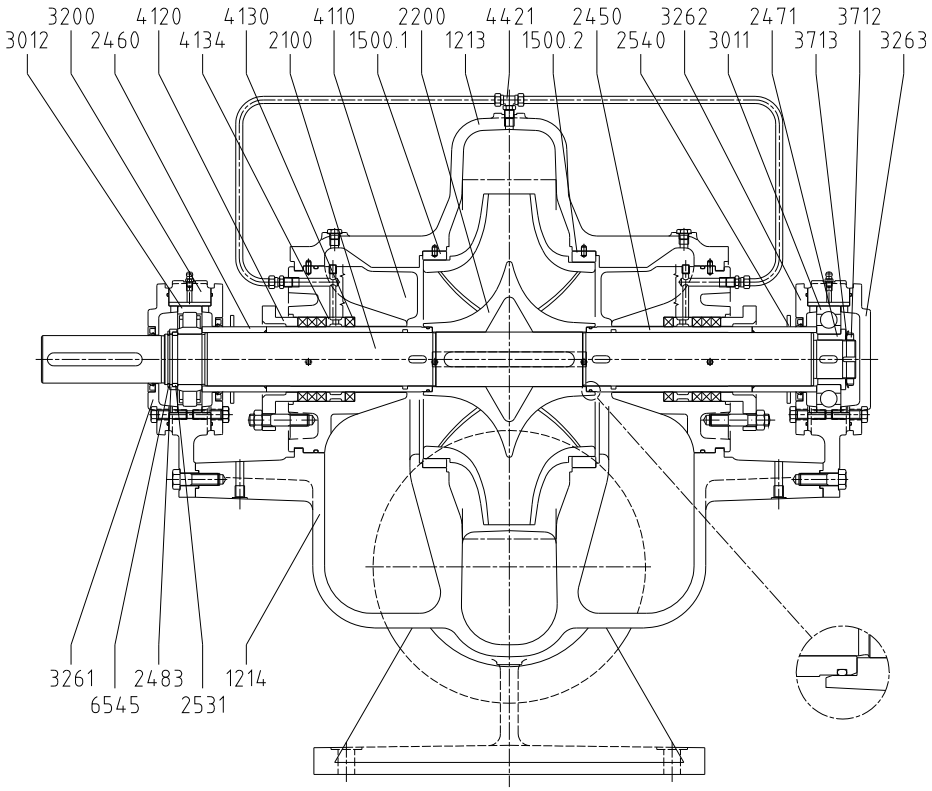
The high standardization of the main components (shafts, protection sleeves, bearings and gaskets) represents a significant economic advantage in the management and stock of spare parts.

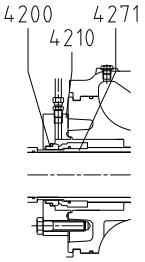
The hydraulic optimization and the constructive design of the impellers have been studied in order to obtain high efficiency values and a low NPSH value.

The suction duct and the impeller with large input surfaces are designed with great accuracy to have high capacity of suction without noise and vibration.
Many materials are disposable for different use, accurately chosen for different applications on pumped fluid. Great reliability ensures long maintenance intervals.

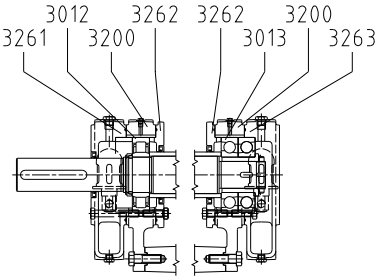
Easy and economical maintenance, quick and easy disassembly/assembly of rotor parts.
Thanks to its construction, all parts are easily accessible without dismounting the casing from piping.

Sectional drawing and denomination

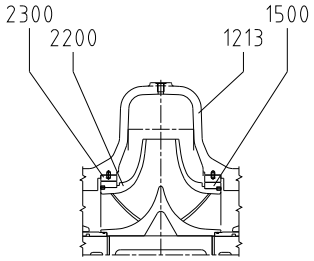




Mechanical seal



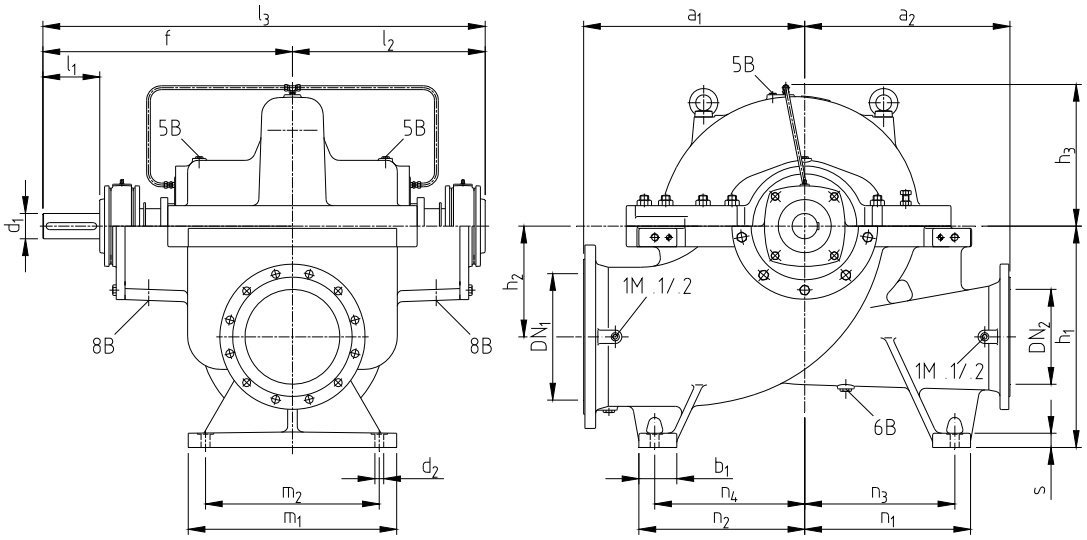
Oil lubrication



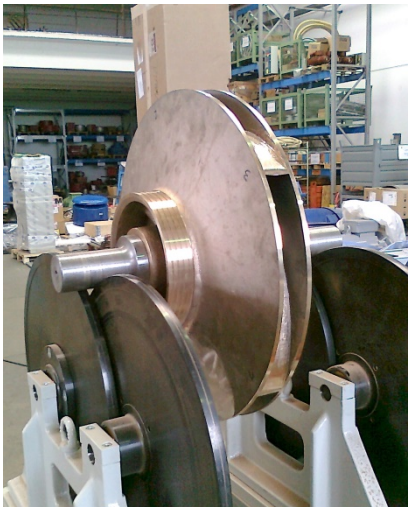
Double wear ring

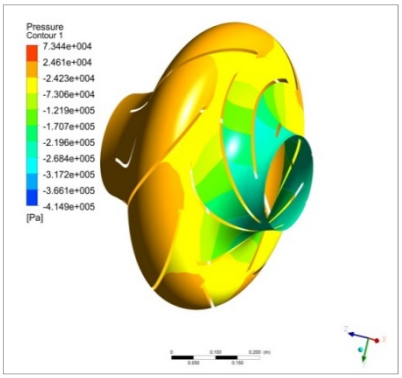
1213	Casing half, lower	3200	Bearing housing
1214	Casing half, upper	3261	Bearing cover, drive side
1500.1	Casing wear ring	3262	Bearing cover, pump side
1500.2	Casing wear ring	3263	Bearing cover, non drive side
2100	Shaft	3300	Bearing bush
2200	Impeller	3400	Bearing sleeve
2300	Impeller wear ring	3712	Bearing nut
2450.1	Shaft sleeve	3713	Wascher bearing nut
2450.2	Shaft sleeve	4110	Stuffing box housing
2460	Spacer sleeve	4120	Stuffing box collar
2471	Bearing adaptor sleeve	4130	Gland packing
2483	Locating sleeve	4134	Lantern ring
2531	Retaining ring, split	4200	Mechanical seal
2540	Deflector	4210	Housing for mechanical seal
3011	Radial ball bearing	4271	Shaft sleeve for mechanical seal
3012	Radial roller bearing	4421	Shaft seal pipe
3013	Thrust ball bearing	4516	Joint for axially split casing

Overall size



Pump size	Flange (mm)		Pump dimensions (mm)							Foot dimensions (mm)			Shaft (mm)		Weight (Kg)
	DN_1	DN_2	a_1	a_2	f	h_1	h_2	h_3	l_2	m_1	n_1	n_2	d_1	l_1	
125-250	200	125	370	370	515	400	200	210	366	390	260	260	45	100	260
125-300								230							285
125-380								260							310
125-480			450	450				305			315	315			345
150-290	200	150	400	400	515	400	200	245	366	390	260	260	45	100	365
150-360								265							375
150-460			450	450	590			305	399	480	315	315	55	125	455
150-560			600	600		500	300	370			385	385			665
200-330	250	200	450	450	590	500	240	285	399	480	315	315	55	125	470
200-440			500	500				310							540
200-520			600		655	560	300	370	464		385	385	65	140	860
200-650			650	550		600	350	430			400	400			1010
250-380	300	250	500	500	655	600	300	320	464	480	400	400	65	140	690
250-500			550	550	730			355	515	600			75	160	855
250-600			650			630	350	415							1240
300-340	350	300	550	500	655	630	300	360	464	480	400	400	65	140	655
300-430	400		650	550	730	670	350	365	515	600			75	160	930
300-580			700	650	810	710	350	430	585		525	525	85	180	1450
300-700			750			750	400	480							1715
350-390	400	350	650	550	730	670	850	410	515	600	400	400	75	160	890
350-450	450		750	650	810	750	400	465	585		525	525	85	180	1310
350-500	400		700					420							1420





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