

# MDP SERIES



## TECHNICAL MANUAL



# MDP Series

Pit Pumps with Column

## General Specifications



Mas Grup

### General Applications

MDP Series pumps are used in;

- Industrial facilities,
- Industrial waste liquids,
- Chemical liquids,
- Filtration plants,
- Foundries and iron-steel industry,
- Steam power plants,
- Petroleum chemicals industry,
- Draning of clean water, waste water, emulsion and sludge,
- For handling of liquids containing sludge, fibres and solid particles.

### Design

- MDP series pumps are vertical shaft, single stage with closed, open and vortex type impellers wastewater pumps.
- The casing has a radial discharge nozzle. Thanks to casing and bearing fixing element, the parallel verification is provided among the column, suction cover and bearing.
- The pump can deliver solid particles or fibres with design of impeller and volute casing.
- Impellers are balanced according to ISO 1940/1 – 6.3.
- The bearing are used in inlet area of the pump for radial loads.
- Extra spacer bearings are used on the shaft to provide more rigid structure when tube lenght increases. The steel column protecting the shaft from external factors is protected with mechanical seal on the pump side and it prevents to reach the liquid to the bearings and surfaces of the shaft.

### Pump Shaft

In Standard design, one-piece shaft is used to provide parallelism.

Shaft surface is machined precisely and it is cleared to prevent the vibration of the shaft and to reduce the collapse of the shaft.

In all series, standard bearing lenght provide shaft to be kept below the first critical speed.

### Bearing and Lubrication

Axial bearing is provided with single row ball bearing (6300 type) with grease lubricated. Through mounted to shaft, all axial thrust and also some radial load are carried. Spacer bearings (1200 type) can use to provide more rigid structure for the shaft. All contact surfaces are machined precisely.

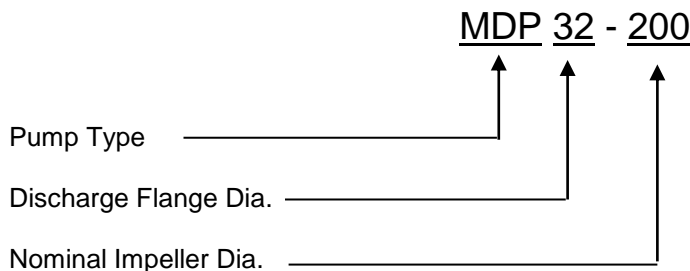
### Shaft Sealing

In standard manufacturing, shaft sealing is provided with mechanical seal.

### Technical Specifications

Discharge Flange	: Up to DN 200
Operatin Pressure	: 10 Bar (16 Bar)
Impeller Diameter	: Ø 120 – Ø 380
Capacity Range (Q)	: 10 – 800 m <sup>3</sup> / hour
Speed Range	: 1450 - 2900 rpm
Temperature	: Up to 90 <sup>0</sup> C
Head Range	: 35 m

### Pump Codification



**ATEX Codification**

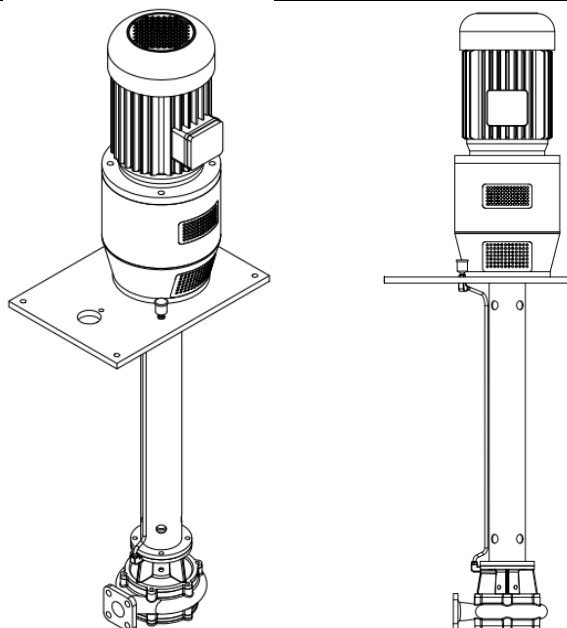
ATEX – 95

II 2G /D c Tx (85 °C – 200 °C)

Equipment Groups (Annex I of Directive 94/9/EC)							
Group I (mines, mine gas and dust)		Group II (other explosive atmospheres gas/dust)					
Category M 1	Category M 2	Category 1		Category 2		Category 3	
		G (gas) (Zone 0)	D (dust) (Zone 20)	G (gas) (Zone 1)	D (dust) (Zone 21)	G (gas) (Zone 2)	D (dust) (Zone 22)
For equipment providing a very high level of protection when endangered by an explosive atmosphere	For equipment providing a high level of protection when likely to be endangered by an explosive atmosphere	For equipment providing a very high level of protection when used in areas where an explosive atmosphere is very likely to occur		For equipment providing a high level of protection when used in areas where an explosive atmosphere is likely to occur		For equipment providing a normal level of protection when used in areas where an explosive atmosphere is less likely to occur	

TEMPERATURE CLASS		
Temperature class required by the area classification	Ignition temperature of gas or vapor	Allowable temperature classes of equipment
T1	> 450 °C	T1 - T6
T2	> 300 °C	T2 - T6
T3	> 200 °C	T3 - T6
T4	> 135 °C	T4 - T6
T5	> 100 °C	T5 - T6
T6	> 85 °C	T6

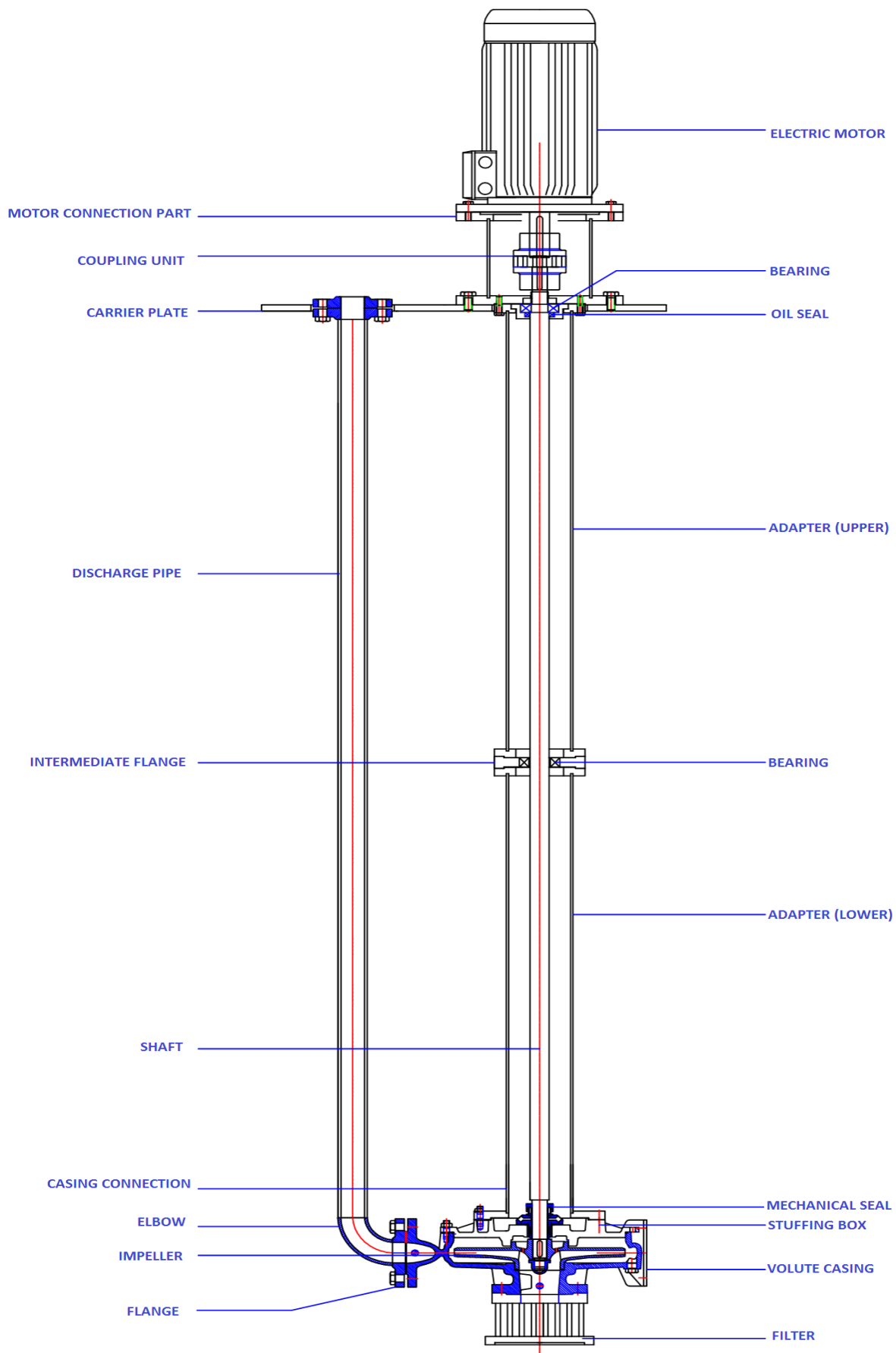
Code	Description
II	The Usage in other non-mining explosive atmospheres
2	2. Category: High level of protection
G	For potentially explosive environments due to gases or vapors
T	Temperature class
X	ATEX Marking of the motor manufacturer



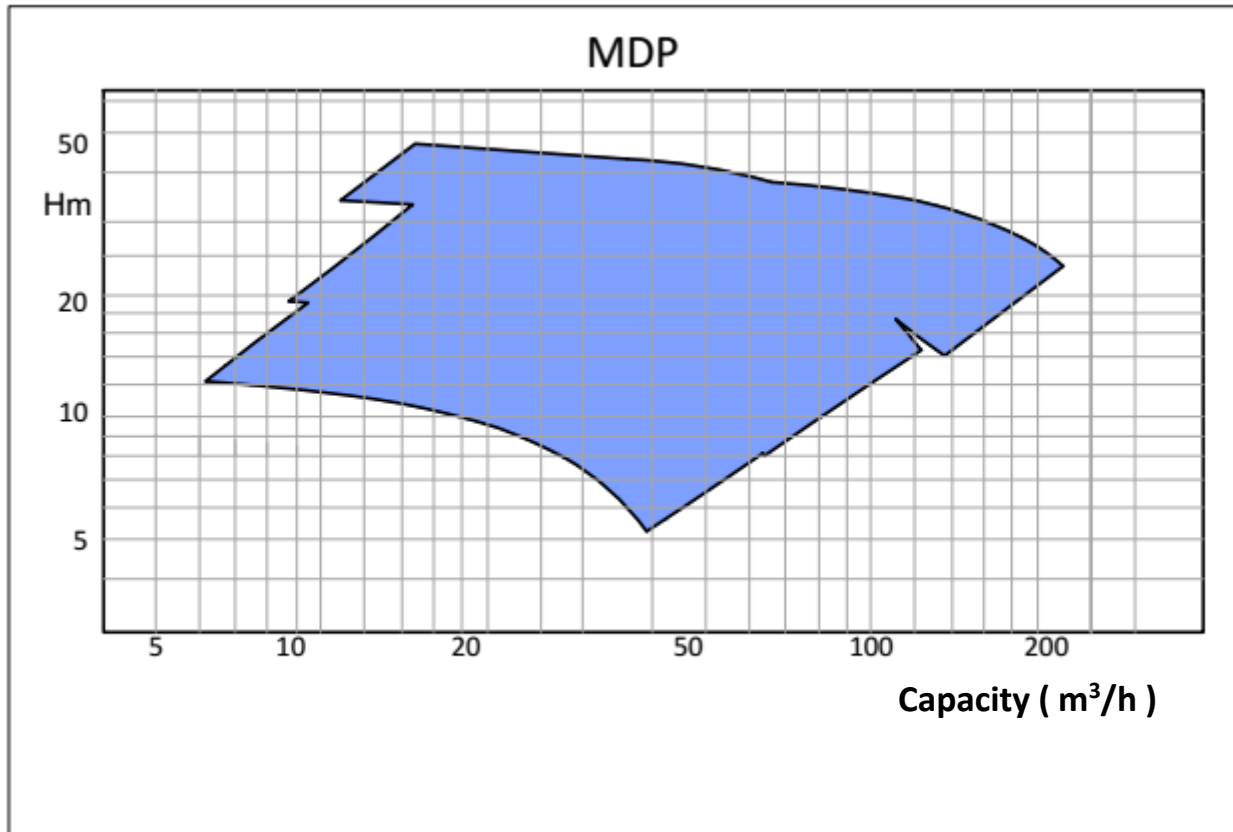
**MDP Series**  
 Pit Pumps with Column  
**Sectional Drawing and Part List**



**Mas Grup**



**MDP Hidraulics Range**





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