



**Mas Grup**

# PRODUCTS

## CATALOGUE



# IT IS LEADERS' JOB TO DEAL WITH CHALLENGING WASTE WATER



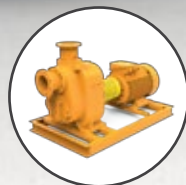
## [ENDURO SERIES]



Enduro Lite Series  
Wastewater Pumps



PSH/MDP Series  
Wastewater Shft  
Pumps



UKM-S Series  
Self Priming  
Wastewater Pumps



Blackbox Lifting  
Station Systems

- Low noise level,
- Odour Tight,
- Various installation and accessories availability inline with the requirement,
- Wide product range
- Easy to service







A dramatic, high-angle photograph of an offshore oil rig deck. The deck is filled with a complex network of dark grey pipes, walkways, and industrial equipment. In the background, a massive, curling wave of deep blue water with white foam is crashing over the rig, creating a sense of intense pressure and danger. The sky is overcast and grey, contributing to the overall somber and powerful atmosphere of the scene.

TRUST  
**THE LEADER**  
IN DEMANDING  
**MARINE**  
**APPLICATIONS**

# Globally Approves Mas Daf Quality



## OUR CERTIFICATES

 UKR SEPRO	 LISTED	 GOST	 NFPA® <small>Is a member of NFPA Membership nr. 632611</small>	 TUV NORD
 TSE	 FM APPROVED	 CE	 Ex	 ATEX Ex



## OUR COMPANY

*Go further for years, without giving compromise from advance technology and quality*

MAS - DAF Makine Sanayi A.S. has been a manufacturer of a full range of residential and commercial pumps since 1977. Since our founding we have dedicated our activities towards the manufacture of products that provide efficient utilizations of water and energy, as well as focusing our efforts on searching for ways to conserve the resources needed to sustain life.

Now exporting to more than 65 countries across the face of the globe, we of the MAS Group have

continued to hold fast to our principle of continual self-development. Determined to increase our competitive strengths on domestic and foreign markets, in 2006 the company put its Duzce factory into full capacity service. The factory has been built on 40,000 m<sup>2</sup> of land with production facilities covering an area of 20,000 m<sup>2</sup>. Through the years, our company has been propelled into a leadership position in the pump sector thanks to the production techniques the Group has developed, our machinery, R&D unit, professional staff, and our continual provision of top quality

quality and modern services. Our basic philosophy is to ensure that all of our actions are conducted in strict conformance with legal and business ethics, that our customers are informed and their rights always protected, that we provide the best possible quality of services and technology, and that we establish a system of human resources that meets the satisfaction of both our own

personnel and our customer. Backed by 41 years of developed technology and high quality of service, we stride forward into the future determined never to make any concessions in anything we do...



## **BEING LEADER**

**NEEDS DETERMINATION AND COMMITMENT**

SINCE 1977, WHERE THERE IS FLUID,  
THERE WE ARE



# R&D ACTIVITIES

*Never-ending search to enhance "economy and safety"*

Not only has the MAS Group achieved an important place on world markets, the MAS Group is also one of the few companies in the pump sector that is noted for the new models and designs it has developed. Our R&D department, which includes 16 technical personnel--all experts in their areas of specialty, three special CNC data processing centers assigned to these experts, as well as testing stations equipped with most modern technological devices and computers, continuously carries out comprehensive efforts that range from design

to prototype production. The MAS GROUP values the welfare of our staff and we try to create an environment where all our personnel are able to work efficiently with mutual respect and trust. We believe in team efforts and realize that the advancement of the MAS Group depends on the advancement of all the individual members of our team. We know that advancements in technology, research, and service provisions rely on the smooth collaboration of all members of our staff.



## DEVOTED TO "PERFECTION"

As the MAS GROUP we have been dedicated to offering our services to those industries that value and need high performance.

- Oil and Fuel Industry
- Chemical Processing Industry
- Water Resources
- Power Plants
- General Industry





## QUALITY CONCEPTS

*“You may be sure that our products meet the required quality standards”*

Global competition has swept away any possible notions of complacency in traditional manufacture. With the appearance of more and more alternatives in the marketplace, the customer becomes increasingly demanding as it searches for the best possible quality levels in manufacture and service provisions.

We are well aware that to maintain and broaden our customer base we have to closely monitor and advance the quality of our products and our services. We have factored in systems to help us carry out our monitoring processes. Good products depend on high quality raw materials, so all materials used in production are evaluated as soon as they arrive at the factory. We also monitor the materials throughout the production processes. Any defects noted in materials during different

stages of production arising from their individual properties or from the production process itself, are closely monitored. Close and sustained monitoring of materials and production throughout all stages allow us to provide our customers with products that meet their demands.

The quality criteria that are required in production processes are continuously monitored by use of the Quality Control module, allowing us to trace conditions with the potential of giving rise to problems, which can then be resolved. In this way it is possible to minimize losses and process costs. Quality control procedures are also carried out following critical operations. By doing so, we ensure that our products meet the required quality standards.



## AFTER SALES SERVICES

We offer high efficiency and technological superiority supported by excellent service...

As the MAS Group Family we give great value to the special requests and needs of our esteemed customers. The satisfaction of our customers is just as important as the quality of service offered.



## EXTENSIVE SERVICE

### *Engineering excellence in pumping solutions*

Whenever and wherever you may be the technical support service of the MAS Group is ready to help you with what you need. The fully trained and highly knowledgeable personnel of the technical service department are devoted to the provision of high quality service at all times and are always ready to offer creative solutions to any problem. The staff of our technical service are fully aware of problems that might arise and are ready as a group to provide all of the assistance required.

The highly qualified and authorized engineers and technical personnel of our extensive service network are always at the side of our customers to answer their questions to evaluate the problems they have and to provide them with reliable solutions.

The maintenance programs aimed at increasing product performance and life are also part of the technical support services.

# SECTORS WE SUPPLY OUR PRODUCTS WITH OUR 40 YEARS EXPERIENCE



## **WATER TRANSFER**

We provide our customers with single and multistage pumps at water distribution centers, industrial and social installations and water pumping stations.



## **HEATING AND COOLING SYSTEMS**

We provide circulation pumps used in central heating, hot and cold water and air conditioning systems. The circulation pumps are compatible with electronic control units, heating and air conditioning systems.



## **INDUSTRIAL PROCESSES**

We provide single and multistage pumps to be used to transfer industrial fluids under pressure, to perform hot and cold water and thermal fluid transfers, to carry out chemical processes and in reverse osmosis systems.



## **BUILDING TECHNOLOGIES**

The clean water supplies for residences and offices are provided by booster pumps and pressure tanks, by units with frequency converters and single and multistage pumps.



## **MARITIME SERVICES**

For the marine sector we have such products as the norm centrifugal pumps made of stainless steel and bronze, in-line type pumps and horizontal and vertical multistage pumps to be utilized on marine vessels.



## **AGRICULTURE AND IRRIGATION**

For garden and field irrigation and particularly for places where there is no electricity we provide diesel pumps for provision of water.



## **FIRE FIGHTING**

Our line of pumps used to fight fires includes in-line type, end suction and separable body double suction centrifugal pumps. The fire pumps are manufactured according to NFPA 20 and UL standards.



## **WASTE WATER**

We provide self priming and sump type pumps that can be used to transfer sewage, underground and septic water.

# SECTORS THAT UTILIZE OUR PRODUCTS

	Water Transfer	Heating and Cooling Systems	Industrial Processes	Building Technologies	Maritime Services	Agriculture and Irrigation	Fire Fighting	Waste Water
Norm Centrifugal Pumps	●	●	●	●	●	●		
Split Case Double Suction Centrifugal Pumps	●	●	●		●		●	
Vertical Split Case Double Suction Centrifugal P.	●		●		●			
Monoblock Centrifugal Pumps	●	●	●	●	●			
In-line Centrifugal Pumps	●	●	●	●	●			
Thermal Oil Pumps			●					
UL or NFPA 20 Compatible Fire Pumps							●	
Twin Head Mounted In-Line Pumps		●	●	●				
Pumps with Self-Priming Unit	●	●	●	●	●			
Chemical Processing Pumps			●					
Vertical High Pressure Multistage Centrifugal P.	●	●	●	●	●			
Horizontal High Pressure Multistage Centrifugal P.	●	●	●	●				
Self-Priming Sewage Pumps			●					●
Vertical Sewage Sump Pumps			●					●
Centrifugal Vertical Submersible Pump			●					●
Boosters				●	●			
Frequency Control Panels	●	●	●	●	●			
Interchangeable Membrane Closed Pressure Tanks		●	●	●	●		●	

## NM SERIES



### End Suction Centrifugal Pumps



#### FIELDS OF APPLICATIONS

- Water supply and booster stations.
- Irrigation, sprinkling, drainage processes.
- Tank systems.
- Hot-cold water circulation in cooling systems.
- Pumping of condensed water.
- Circulating water in pools.
- Industrial and domestic fluid pumping processes.
- Marine applications.

#### DESIGN

- Single stage, end suction, centrifugal volute pump.
- Main dimensions, compatible with EN 733 (DIN 24255) norm. A total of 48 designed pumps available in the series.
- Single suction with closed impeller, and thrust balanced by means of counter-balancing holes and back wear rings, thus acquiring a dynamic balance.
- The pump and the motor have a standard connection to the common base plate with a flexible coupling. Maintenance and repair procedures are easily carried out since the pump fixtures can be removed with the volute body remaining intact.
- Use of extended coupling also enables the removal of the pump fixtures without moving the motor or the volute body.
- The series has been designed so that parts are easily replaced and standardized. The entire series is made up of only 6 bearings and 10 shaft types, thus simplifying spare parts procurement.

#### GENERAL SPECIFICATIONS

Suction Flange	DN 50... DN 400
Discharge Flange	DN 32...DN 350
Operation Pressure	10 Bar
Casing Test Pressure	13 Bar
Operation Temperature	25 – 130°C
Impeller Diameter $\phi$	160...500 mm $\phi$
Speed Range	1000 – 3600 RPM
Flow Rate	5 – 3500 m <sup>3</sup> / h
Head Pressure	4 - 105 m

## NMM SERIES



### Mono-Block Centrifugal Pumps



#### FIELDS OF APPLICATIONS

- Transfer of corrosive, explosive, burnable, toxic, valuable, volatile and hot liquids.
- Chemical and petrochemical industries
- Detergents known as dangerous fluid in food facilities
- Harmful gas cleaning systems
- Biodiesel facilities
- Heating and cooling systems
- Power stations
- Solar energy systems
- Medical industries
- Electrostatic applications of powdered paint
- Cooling systems of carbon arc furnace

#### DESIGN

- NM m-Drive series pumps are single stage, end suction, seal-less volute type pumps with magnetic coupling.
- Single entry, closed impeller is hydraulically thrust compensated and dynamically balanced.
- Main dimensions according to EN 733.
- Pump and motor are connected to each other on a base plate by using magnetic coupling.
- Pump can be dismantled without removing pump casing thus maintenance and assembly operations can be easily performed.
- Silicon carbide plain bearings which are lubricated by process fluid are used in NM m-Drive series pump.
- Thanks to magnetic couplings which are used in NM m-Drive series pumps, zero leakage is provided. Outer magnetic rotor is rotated by motor shaft and inner magnetic rotor is rotated synchronously to outer magnetic rotor by magnetic forces without any physical contact. Inside of the pump is isolated from environment by containment shroud and zero leakage is guaranteed.

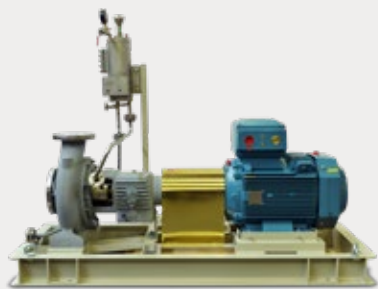
#### GENERAL SPECIFICATIONS

Suction Flange	DN 50... DN 150
Discharge Flange	DN 32...DN 125
Operation Pressure	10 Bar
Casing Test Pressure	13 Bar
Operation Temperature	-25 – 120°C
Impeller Diameter $\phi$	123...428 mm $\phi$
Speed Range	1450 – 2900 RPM
Flow Rate	5 – 400 m <sup>3</sup> / h
Head Pressure	4 – 110 m

## NME SERIES



### Heavy Duty Chemical Process Pumps



#### FIELDS OF APPLICATIONS

- Petrol distribution and tanker filling
- Ethanol and biodiesel plants
- Delivery of flammable chemical materials
- Power plants
- Industrial plants
- Starch, fructose and vegetable oil production plants
- Viscous material transfer with heating jacket option
- Heavy Duty Applications

#### DESIGN

- Single stage, end suction, volute casing ISO EN 2858 DIN 24256 standard pumps. Centerline mounted, single stage volute casing pumps with mechanical seals and heating jacket (Centerline mounted model).
- Single suction, radial and mixed flow closed type impeller is equipped with back wear rings to balance axial loads. Impeller is also balanced dynamically according to ISO 1940-1 G6.3.
- Pump and motor are coupled on a rigid frame by using elastic or ATEX certificated couplings.
- Pump shaft, impeller, bearing housing and other components can be dismantled without removing pump casing. Thus maintenance and assembly operations can be easily performed.
- By using spacer coupling it is possible to dismantle pump without removing motor. Same components can be used at maximum versatility and they can be used in pumps at different dimensions so it is easier to store spare parts and change pump components.

#### GENERAL SPECIFICATIONS

Suction Flange	DN 50... DN 400
Discharge Flange	DN 32...DN 350
Operation Pressure	16 Bar
Casing Test Pressure	20 Bar
Impeller Diameter $\phi$	500 mm $\phi$
Speed Range	1000 – 3600 RPM
Flow Rate	5 – 3500 m <sup>3</sup> / h
Head Pressure	5–210 m

## NM m-DRIVE SERIES



### End-Suction Norm Centrifugal Pumps with Magnetic Coupling



#### FIELDS OF APPLICATIONS

- Transfer of corrosive, explosive, burnable, toxic, valuable, volatile and hot liquids.
- Chemical and petrochemical industries
- Detergents known as dangerous fluid in food facilities
- Harmful gas cleaning systems
- Biodiesel facilities
- Heating and cooling systems
- Power stations
- Solar energy systems
- Medical industries
- Electrostatic applications of powdered paint
- Cooling systems of carbon arc furnace

#### DESIGN

- NM m-Drive series pumps are single stage, end suction, seal-less volute type pumps with magnetic coupling.
- Single entry, closed impeller is hydraulically thrust compensated and dynamically balanced.
- Main dimensions according to EN 733.
- Pump and motor are connected to each other on a base plate by using magnetic coupling.
- Pump can be dismantled without removing pump casing thus maintenance and assembly operations can be easily performed.
- Silicon carbide plain bearings which are lubricated by process fluid are used in NM m-Drive series pump.
- Thanks to magnetic couplings which are used in NM m-Drive series pumps, zero leakage is provided. Outer magnetic rotor is rotated by motor shaft and inner magnetic rotor is rotated synchronously to outer magnetic rotor by magnetic forces without any physical contact. Inside of the pump is isolated from environment by containment shroud and zero leakage is guaranteed.

#### GENERAL SPECIFICATIONS

Suction Flange	DN 50... DN 100
Discharge Flange	DN 32...DN 80
Operation Pressure	10 Bar
Casing Test Pressure	14 Bar
Operation Temperature	Up to 300°C
Impeller Diameter $\phi$	120-218 mm $\phi$
Speed Range	1000 – 2900 RPM
Flow Rate	10 – 200 m <sup>3</sup> / h
Head Pressure	4 - 65 m
Max. Power	18.5 kW



## In-Line Centrifugal Pumps



### FIELDS OF APPLICATIONS

- Water supply and pumping stations.
- Irrigation , sprinkling, drainage processes.
- Tank systems.
- Hot-cold water circulation in cooling systems.
- Pumping of condensed water.
- Swimming pool water circulation.
- Industrial and social installations.
- Fresh water and sea water pumping in ships.

### DESIGN

- Single stage in-line type centrifugal pumps are produced with standard motors and mechanical seal.
- Pump flanges are designed in PN 16 pressure category compatible with DIN 2533. The suction and discharge flanges are identical and are on the same axis. Both flanges are equipped with pressure gage tapings.
- Single entry, closed impeller is equipped with rear rings to balance thrust and is dynamically balanced.
- Motor is connected to the pump by an adaptor and a flange.
- Motor shaft is joined to pump shaft by a special clamp. In the case of motors with power over a certain value the pump and the motor shafts are joined by separate rigid coupling.
- Pump shaft, motor and other parts can be removed without replacing the suction and discharge flanges and the pump volute. Thus, assembly and maintenance procedures are carried out very easily
- Standard asynchronous motor is used to activate pump.
- In NMM pumps shaft leakage is prevented by a mechanical seal. All radial and thrust forces are supported by the motor bearing.

### GENERAL SPECIFICATIONS

Suction Flange	DN 40..DN 250
Discharge Flange	DN 40..DN 250
Operation Pressure	10 Bar
Casing Test Pressure	13 Bar
Operation Temperature	-25 – 120°C
Speed Range	900 – 3600 RPM
Flow Rate	2 – 850 m <sup>3</sup> / h
Head Pressure	2 - 70 m



## In-Line Centrifugal Pumps with Frequency Inverter



### FIELDS OF APPLICATIONS

- Water supply
- Boosting
- Circulating of hot and cold water
- In central heating and air-conditioning installations
- Circulating of swimming pool water
- Industrial and social facilities
- Pumping of clean or sea water in ships

### DESIGN

- The INM GENiO series pumps are single-stage centrifugal pumps of non-self-priming type fitted with standard motors, frequency inverter and mechanical shaft seals.
- Outstanding features of the design are easy assembly of the frequency inverter directly into the motor; besides the compact structure of the unit it's usage in smart applications and being integrable into the system; connectivity of different type of sensors, quiet and safe working style.
- The nominal flow rates of the pumps comply with the DIN 24 255 standards.
- Pump flanges sizes according to DIN 2533, PN 16. The dimensions of the suction and discharge ports are identical. Both pump flanges have pressure gage tapings.
- Single entry, closed impeller is hydraulically thrust compensated and dynamically balanced.
- A drain plug is fitted in the bottom of pump housing.
- The motor shaft is passed into the pump shaft for coupling and no need to use any coupling for the system.

### GENERAL SPECIFICATIONS

Suction Flange	DN 40 – DN 200
Discharge Flange	DN 40 – DN 200
Head Pressure	2 – 105 m
Flow Rate	2 – 520 m <sup>3</sup> /h
Flange Connection	PN 16
Operation Pressure Max.	10 bar
Casing Test Pressure	13 bar
Speed Range	1000 – 3600 RPM
Fluid Temperature Min.	-25°C
Fluid Temperature Max.	+120°C
Operation Temperature	0°C - 60°C

## INM-D SERIES



### Twin Head Mounted In-Line Pumps



#### FIELDS OF APPLICATIONS

- HVAC systems
- Industrial plants
- Swimming pools.
- Geothermal plants

#### DESIGN

- INM - D series twin head mounted, in - line type centrifugal pumps.
- Formed by joining two standard INM series pumps with collector parts.
- Special design composed of a common collector and integrated check valves at each pump exit that provides for independent operation.
- In case of failure of the pump the second pump goes into operation, so the process does not come to a halt.
- Single suction, closed type impeller is equipped with rear rings to balance thrust and is dynamically balanced.
- Maintenance - repair processes are very easy due to the back pull out design.
- Standard asynchronous motors are used to set pump in motion.
- The pump shaft is coupled with the motor shaft by means of a special clamp. This coupling makes it easy to dismantle the pump without removing the motor.

#### GENERAL SPECIFICATIONS

Suction Flange	DN 40...DN 125
Discharge Flange	DN 40...DN 125
Operation Pressure	10 Bar
Casing Test Pressure	13 Bar
Operation Temperature	-25 – 120°C
Flow Rate	2x(2 – 320) m <sup>3</sup> /h
Head Pressure	2 - 100 m
Speed Range	900 – 3600 RPM

## AX/A SERIES



### High Efficiency Heating Circulation Pumps



#### DESIGN

- User-friendly pumps have simple and clear control buttons and lightened displays.
- The pump is equipped with an internal electric motor protection and does not require external motor protection.
- The pump is equipped with a fault and operation message (adjustable).
- Wear-free, precision flat bearings provide silent operation and extend the life of the pump.
- The resistance to high temperatures of the bobin provides a long lifetime for the pump and allows high temperature fluid to be pumped.
- Improved water intake ensures bearing lubrication in the rotor compartment and small pumps do not require air bleeding during operation.
- There is deactivatable or activatable power limitation.
- There is an activated automatic night mode.

#### GENERAL SPECIFICATIONS

Suction - Discharge Flange	DN 15 – DN 50
Flow Rate	0 – 10 m <sup>3</sup> / h
Head	4 – 11 m
Fluid Temperature	15°C – 110°C
Operation Pressure	10 bar
EEL Value	≤0,19 – ≤0,23
Connection Type	AX ve A: Geerwheel A 400&500 series: Flange

## ModuA RED SERIES

### High Efficiency Heating Circulation Pumps



#### DESIGN

- “EKO Design” marked MAS-DAF pumps provide up to 80% electricity savings. Old pumps replaced with ModuA pumps of MAS-DAF will soon pay for the cost.
- MAS-DAF ModuA pumps are in the top category “Best in Class” with an EEI of  $\leq 0,17$ . It offers energy efficiency of over 80% compared to the classic non-controllable pumps being in efficiency class D.
- With the Interface ModuA, your pump can be simply and optimally integrated into any building control system for both today's and future needs. The remote adapter has Wi-Fi capability and allows wireless communication between smartphones and the pump.
- User-friendly pumps have simple and clear control buttons and lightened displays.
- Optimum operating modes against various operating conditions (Control with proportional operating pressure (PP), Control with constant operating pressure (CP), Control with constant speed (CS)) can be easily adjusted via the control panel.
- ModuA heating circulation pumps provide a suitable solution for almost all performance categories and areas of use.
- Wear-free, precision flat bearings provide silent operation and extend the life of the pump.
- The resistance to high temperatures of the bobin provides a long lifetime for the pump and allows high temperature fluid to be pumped.
- Improved water intake ensures bearing lubrication in the rotor compartment and small pumps do not require air bleeding during operation.
- An automatic pressure control saves for good measure on variable flows.
- There is deactivatable or activatable power limitation.
- There is an activated automatic night mode.

GENERAL SPECIFICATIONS	
Suction - Discharge Flange	DN 40 – DN 100
Flow Rate	0 – 75 m <sup>3</sup> / h
Head	6 – 18 m
Fluid Temperature	-10°C – 110°C
Operation Pressure	6 bar / 16 bar
EEI Value	$\leq 0,17$ – $\leq 0,19$
Connection Type	Flange

## AD/ModuA-D SERIES

### High Efficiency Twin Heating Circulation Pumps



#### DESIGN

- “EKO Design” marked MAS-DAF pumps provide up to 80% electricity savings. Old pumps replaced with ModuA pumps of MAS-DAF will soon pay for the cost.
- MAS-DAF ModuA pumps are in the top category “Best in Class” with an EEI of  $\leq 0,17$ . It offers energy efficiency of over 80% compared to the classic non-controllable pumps being in efficiency class D.
- With the Interface ModuA, your pump can be simply and optimally integrated into any building control system for both today's and future needs. The remote adapter has Wi-Fi capability and allows wireless communication between smartphones and the pump.
- ModuA heating circulation pumps provide a suitable solution for almost all performance categories and areas of use.
- User-friendly pumps have simple and clear control buttons and lightened displays.
- Optimum operating modes against various operating conditions (Control with proportional operating pressure (PP), Control with constant operating pressure (CP), Control with constant speed (CS)) can be easily adjusted via the control panel.
- The pump is equipped with an internal electric motor protection and does not require external motor protection.
- The pump is equipped with a fault and operation message (adjustable).
- Pumps are designed to operate singly in installations requiring high safety. (Pump 1 or Pump 2). The other pump enters the circuit depending on the time or the failure of a pump.
- Pump is suitable for cold water use.
- Wear-free, precision flat bearings provide silent operation and extend the life of the pump.
- The resistance to high temperatures of the bobin provides a long lifetime for the pump and allows high temperature fluid to be pumped.
- Improved water intake ensures bearing lubrication in the rotor compartment and small pumps do not require air bleeding during operation.
- An automatic pressure control saves for good measure on variable flows.

GENERAL SPECIFICATIONS	
Suction - Discharge Flange	DN 40 – DN 100
Flow Rate	0 – 72 m <sup>3</sup> / h
Head	6 – 18 m
Fluid Temperature	-10°C – 110°C
Operation Pressure	6 bar / 16 bar
EEI Value	$\leq 0,17$ – $\leq 0,22$
Connection Type	Flange



## KMU SERIES



### Horizontal High Pressure Multistage Centrifugal Pumps



#### FIELDS OF APPLICATIONS

In pumping of pure or relatively clean liquids in:

- Boilers and condensation process.
- Health and hygienic processes.
- Industrial applications.
- Shipyards, mines and power installations, filtration units.
- Drinking water supply and distribution centers.
- Water supply in high buildings.
- Water treatment systems.
- Industrial installations for provision of process water.

#### DESIGN

- KMU series, multistage, horizontal centrifugal pumps.
- High-efficiency stainless steel impeller is manufactured using precision molding technology used.
- Single entry enclosed type impeller is dynamically balanced
- The pump and the motor are connected by means of a flexible coupling on a common base plate. The flanges are compatible with DIN 2535.
- Pump shaft is designed for easy maintenance and repair with problem-free dismantling.
- When viewed from the motor end, the suction flange is opposite the motor and on the left, whereas the discharge flange is adjacent to and above the motor.
- Suction and discharge ports can be fitted in different directions and 90° apart.

#### GENERAL SPECIFICATIONS

Suction Flange	DN 25...DN 50 (PN 40) (DIN 2535)
Discharge Flange	DN 25...DN 50 (PN 40) (DIN 2535)
Operation Pressure	25 Bar
Stage Number	3-18
Flow Rate	1-16 m <sup>3</sup> / h
Head	10-280 m
Temperature Range	-10...110°C; Mechanical Seal -10...90°C; Soft Packing
Speed	Up to 3600 RPM

## KMU-V SERIES



### Vertical High Pressure Multistage Centrifugal Pumps



#### FIELDS OF APPLICATIONS

- Drinking water supply and distribution centers.
- Booster sets in high rise buildings.
- Water treatment systems.
- Industrial installations for provision of process water.
- Boilers and condensation process.
- Health and hygienic processes.
- Industrial installations.
- Shipyards, mineral mines, power installations, and filtration units.
- Irrigation.

#### DESIGN

- KMU - V series pumps are vertical, multistage, centrifugal pumps.
- Impeller is single entry, enclosed and is dynamically balanced.
- KMU - V series pumps are available in 4 different sizes.
- Pump and motor shafts are connected with flexible coupling.
- In standard production the discharge flange is near the top and the suction flange near the bottom. When pump is viewed from the top motor area the pump rotation is in clockwise direction.
- Suction and discharge ports can be rotated by an angle of 90°.

#### GENERAL SPECIFICATIONS

Suction Flange	DN 25...DN 50 (PN 40) (DIN 2535)
Discharge Flange	DN 25...DN 50 (PN 40) (DIN 2535)
Operation Pressure	25 Bar
Stage Number	3-12
Flow Rate	1-16 m <sup>3</sup> / h
Head Pressure	40 - 230 m
Temperature Rate	-10...110°C; Mechanical Seal
Speed	Up to 3600 RPM

## OMK SERIES



### Horizontal High Pressure Multistage Centrifugal Pumps



#### FIELDS OF APPLICATIONS

In pumping of pure or relatively clean liquids in:

- Drinking water sources.
- High buildings and industrial pressure systems.
- Water treatment systems.
- Fire fighting systems.
- Boilers and condensation process.
- Health and hygienic processes.
- All kinds of industrial applications.
- Water distribution systems.
- Navigation, metallurgy, energy sectors.
- Irrigation systems.

#### DESIGN

- OMK series pumps are horizontal axis, OMK-V series pumps are vertical axis, and both of them have separable body and are multistage centrifugal pumps that can be dismantled in stages.
- In both series pump impellers are dynamically balanced, single-entry, closed type. The impeller is situated between bearings on either side at OMK series.
- Thrust is balanced by means of back wear rings. Any remaining unbalanced thrust is supported by ball bearings.
- Back wear rings can be changed if desired.
- Both series consists of 5 types which are 32, 40, 50, 65 and 80. Stage number varies between 2 to 14 at OMK series.
- Suction and discharge flanges are PN40 compatible with DIN 2535 at OMK series. BS, ANSI or other standard flange sizes can be obtained if desired.
- Standard assembly has the discharge flange at the motor end with discharge flange facing upwards and suction flange at the dead end facing towards right and rotating clockwise at OMK series. Alternative assembly is possible upon request.

#### GENERAL SPECIFICATIONS

Suction Flange	DN 50...DN 125 (PN 40) (DIN2535)
Discharge Flange	DN 32...DN 80 (PN 40) (DIN 2535)
Operation Pressure	40 Bar
Stage Number	2-14
Flow Rate	5 - 220 m <sup>3</sup> /h
Head Pressure	30 - 400 m
Temperature Rate	10 - 160 °C; Mechanical Seal -10 - 110 °C; Soft Packing
Motor Speed	3600 RPM

## OMK-V SERIES



### Vertical High Pressure Multistage Centrifugal Pumps



#### FIELDS OF APPLICATIONS

In pumping of pure or relatively clean liquids in:

- Drinking water sources.
- High buildings and industrial pressure systems.
- Water treatment systems.
- Fire fighting systems.
- Boilers and condensation process.
- Health and hygienic processes.
- All kinds of industrial applications.
- Water distribution systems.
- Navigation, metallurgy, energy sectors.
- Irrigation systems.

#### DESIGN

- OMK series pumps are horizontal axis, OMK-V series pumps are vertical axis, and both of them have separable body and are multistage centrifugal pumps that can be dismantled in stages.
- OMK-V pumps have bearings that support radial and axial thrust forces. On the bottom there is a water-lubricated sliding gear.
- Thrust is balanced by means of back wear rings. Any remaining unbalanced thrust is supported by ball bearings.
- Back wear rings can be changed if desired.
- Both series consists of 5 types which are 32, 40, 50, 65 and 80. Stage number varies between 2 to 14 at OMK series.
- Suction and discharge flanges are PN40 compatible with DIN 2535 at OMK series. BS, ANSI or other standard flange sizes can be obtained if desired.
- Pump and motor are connected by means of a common adapter and flexible coupling at OMK-V series.

#### GENERAL SPECIFICATIONS

Suction Flange	DN 50...DN 125 (PN 40) (DIN 2535)
Discharge Flange	DN 32...DN 80 (PN 40) (DIN 2535)
Operating Pressure	40 Bar
Stage Number	2-14
Flow Rate	5 - 220 m <sup>3</sup> /h
Head Pressure	30 - 400 m

## KME SERIES



### Horizontal High Pressure Multistage Centrifugal Pumps



#### FIELDS OF APPLICATIONS

In pumping of pure or relatively clean liquids in:

- Pumping stations.
- Water supply in high buildings.
- Water treatment systems.
- Industrial washing processes.
- Fire fighting systems.
- Boilers and condensation process.
- Health and hygienic processes.
- Industrial and public applications.
- Water distribution systems.
- Marine, metallurgy, energy sectors.
- Irrigation systems.

#### DESIGN

- KME series pumps have horizontal axis, radial separable body and are multistage centrifugal pumps that can be dismantled in stages.
- Closed type impellers are situated between bearings and are balanced dynamically.
- Impeller balance is achieved with back wear rings and balance holes. A balance disc or drum can be used for very high pressures.
- KME series includes 5 types depending on stage number, rotation speed, maximum flow rate attained and vary between 2-15 stages.
- In standard manufacture, the pump and the motor are connected by means of a flexible coupling on a single base plate. In standard assembly the discharge port is located at the motor end with the flange on top and the suction port is at the other side with flange oriented towards the left. Alternative Designs can be obtained upon request.
- Suction and discharge flanges can be situated on the left, right and on the top. On special order, the suction flange can be positioned at the motor end. In that case motor rotation would be in a counter-clockwise direction.

GENERAL SPECIFICATIONS	
Suction Flange	DN 100...DN 250 (PN 16)
Discharge Flange	DN 80...DN 200 (PN 40)
Operating Pressure	40 Bar
Motor Speed	1450-1750 RPM KME 80 : 3000-3600 RPM
Stage Number	2-15
Flow Rate	30 - 800 m <sup>3</sup> / h
Head Pressure	30 - 500 m

## KME-V SERIES



### Vertical High Pressure Multistage Centrifugal Pumps



#### FIELDS OF APPLICATIONS

- Marine application.
- Waterworks.
- High buildings for pumping water.
- Industrial installations for pumping water.
- Water treatment systems.
- Washing processes.
- Fire fighting systems.
- Boilers and condensation process.
- Boiler, bottle, barrel, etc and washing processes.
- Health and hygienic processes.
- Industrial installations.

#### DESIGN

- The KME-V series consists of vertical shaft, vertically staged, closed radial impeller pumps.
- Suction and discharge flanges are compatible with DIN 2535. Suction and discharge mouths can be rotated to the right or left by 90°.
- Pump impellers are fully centrifugal, doubly inclined, winged (Francis) and closed type. Impellers have been dynamically balanced. Thrust is balanced to the rear by back wear rings up to certain stage numbers. A balance disc or drum is used for high pressures.
- KME-V pumps are made of stainless steel and have carefully ground base plates. The center of the pump shaft is thick and the diameters of the two ends are narrower, which ensures that the pump can easily be removed or placed from either end.
- The discharge end of the pump includes a double row of ball bearings (3300 C3 series) contacting angularly. Ball bearings are lubricated by grease. Deflectors in front of the bearings prevent any water leakage.

GENERAL SPECIFICATIONS	
Suction Flange	DN 125...DN 150 (PN 16)
Discharge Flange	DN 100...DN 125 (PN 40)
Operating Pressure	40 Bar (Max.)
Motor Speed	1450-1750 RPM
Stage Number	2 - 7
Flow Rate	30 - 300 m <sup>3</sup> / h
Head Pressure	30 - 190 m

## KDM SERIES



### Horizontal High Pressure Multistage Centrifugal Pumps



#### FIELDS OF APPLICATIONS

- Power plants
- Pumping clean and slightly contaminated fluids
- Boiler feed and condensate transfer
- Central heating systems
- Water supply system
- High-rise buildings and industry booster sets
- Water purification
- Industrial washing system
- Sanitary and cleaning facilities
- Industrial applications and utilities
- Water delivery services
- Shipbuilding, Mining, Filter Units

#### DESIGN

- KDM series are non-self-priming, horizontal, ring portions radially divided, multistage centrifugal pumps.
- Impeller is between bearings; it is single-entry, closed impeller and dynamically balanced.
- There is a balancing drum at discharge side to balance axial load.
- The pump and motor is fixed on the same chassis and are connected via a flexible coupling to each other.
- Suction and press nozzles can be selected in different 90° positions.
- Specially designed fans provide extra cooling to the bearings.
- Bearings lubricated by the liquid.
- Axial loads balanced with balancing drum and thus seal pressure is decreased. High efficiency has been achieved due to the low leakage flow.
- There is a level indicator for oil level in the bearing housing.
- There is a thermometer to see the oil temperature while running.
- Emergency measures for both oil and temperature levels.
- Angular contact ball bearings are used. These bearings have a longer life even under extreme working hours.
- Soft packing or mechanical seal is used for sealing.

#### GENERAL SPECIFICATIONS

Flow Rate	0-100 m <sup>3</sup> /h
Head Pressure	900 m
Temperature	Up to 150°C
Operating Pressure	90 Bar
Max. Stage Number	18
Motor Speed	2900 RPM
Suction Flange	DN 65 – DN 80
Discharge Flange	DN 50 – DN 65

## DF SERIES



### Booster Pumps



#### FIELDS OF APPLICATIONS

- Apartments and residences.
- Drinking water and tap water systems.
- Process and fire water provision.
- School, business and social installations.
- Hotels and holiday villages.
- Industrial installations, factories.

#### DESIGN

- Multistage, vertical shaft pumps used in DS - DB - DM - DMA - DMB - DM65 type boosters.
- DS - DB - DM - DMA - DMB - DM65 type boosters can be produced with one, two, three or four pumps depending on the depth for which they will be used.
- Level floaters of the booster set prevent the pump from functioning without water.
- The shafts in booster pumps are hexagonal and are made of AISI 430F materials.
- In booster pumps bearings are used to compensate for thrust. In addition, there is a sliding bearing underneath made of sintered bronze.
- A mechanical seal prevents water leakage at the shaft.

#### GENERAL SPECIFICATIONS

Flow Rate	2 – 240 m <sup>3</sup> /h
Head Pressure	20 – 150 m
Operating Pressure	16 Bar (Max.)
Temperature Rate	0 – 60 °C
Motor Speed	2900 RPM

## DSV SERIES



### Vertical Stainless Steel Pumps



#### FIELDS OF APPLICATIONS

- Apartments and residences.
- Schools, business centers and small industrial installations.
- Demineralized water systems.

#### DESIGN

- DSV series consist of vertical, staged pumps.
- All parts which come into contact with water are made of stainless steel.
- Suction and discharge flanges are along the same axis.
- Simple body and perfect balance provides for low noise and vibration.
- Mechanical seal is completely leakage proof.
- Body, impeller and shaft are stainless steel.
- Energy savings with frequency control devices.
- High performance, safe operation, easy maintenance.

#### GENERAL SPECIFICATIONS

Protection Class	IP55
Insulation Class	F
Standard Voltage	50 Hz; 1 x 220-230 / 240V 3 x 200-220 / 346-380V 3 x 220-240 / 380-415V 3 x 380-415V
Normal Type	-15 °C ~ +70 °C
Type for Hot Water	+70 °C ~ +120 °C
Ambient Temperature	Up to +40 °C
Altitude	Up to 1000 m

## SPLT/SPLT-V SERIES



### Split Case Double Suction Centrifugal Pumps



#### FIELDS OF APPLICATIONS

- Water supply and booster stations.
- Water purification processes.
- Industrial washing.
- Fire fighting systems.
- Industrial and public applications.
- Marine and metallurgy sectors, power plants.
- Agricultural irrigation systems.
- General application in refineries.

#### DESIGN

- Single stage, axially split casing, double-suction pumps.
- Double entry radial impeller has hydraulic thrust compensation.
- Suction and discharge flanges are along the same line.
- Upper body is lighter than the lower body and joins it in such a way that it is easily assembled.
- Double suction pumps have the advantage of low NPSH (net positive suction head) features.
- The pump has two different types:
  - SPLT - Long type: heavy service type. Is suitable for soft gasket application and the use of a mechanical seal is optional."
  - The pump and the motor are connected by means of a flexible coupling on a common shaft. Diesel motor capable.
- SPLT-V pumps are manufactured with mechanical seal
- In SPLT-V pumps are placed on the Robust and reliable pump base, manufactured with welding construction.

#### GENERAL SPECIFICATIONS

Suction Flange	DN 80... DN 250
Discharge Flange	DN 65...DN 200
Operating Pressure	16 - 20 Bar
Temperature	-10 – 110 °C
Speed Range	960 – 3500 RPM
Flow Rate	30 – 4000 m <sup>3</sup> / h
Head Pressure	15 - 160 m



## Double-Suction Pumps



### FIELDS OF APPLICATIONS

- As ballast pump in ships
- As cooling water pump
- As general service pump
- For water transfer
- For filling and discharging stores and tanks
- In industrial and social facilities

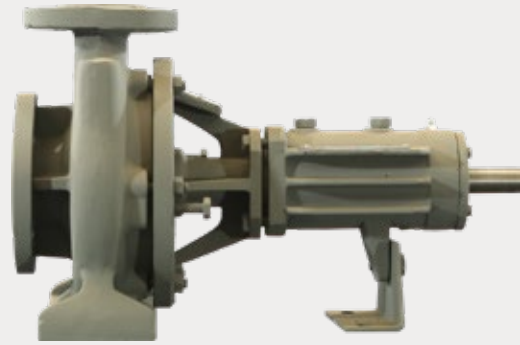
### DESIGN

- CSV series double-suction vertical in-line centrifugal pumps are equipped with standard motors and mechanical seals.
- The impellers of CSV type pumps are (full) radial, double-sloped (Francis type) or mixed flow types.
- Bearing is provided with two grease lubricated, 6300 C3-type deep groove ball bearings according to DIN 625.
- TEFC (Totally Enclosed Fan Cooled) 3 phase, squirrel caged, in accordance to DIN 42673, IM 2001B35 type (with flange) electrical motor which complies with DIN IEC and VDE is used to drive the pump in proper speed and power.
- CSV series are used successfully in large-capacity water transfer in tight spaces thanks to their compact structure, highly efficient construction and the impeller geometry.

GENERAL SPECIFICATIONS	
Flow Rate	400 – 2200 m <sup>3</sup> /h
Head Pressure	10 – 60 m
Operating Pressure	10 bar
Motor Speed Range	730 – 1800 RPM
Suction Flange	DN 300-400 (PN 10)
Discharge Flange	DN 250-350 (PN 10)
Fluid Temperature	Up to 80 °C



## Thermal Oil Pumps



### FIELDS OF APPLICATIONS

- Transfer of heat transfer fluid.
- Chemical installations and refineries.
- Paper and sugar industry.
- Food and pharmaceutical industries.
- Leather industry.
- Plastic and synthetic fiber industries.
- Rubber industry.
- Vulcanizing and heating industry.
- Textile industry.

### DESIGN

- Single stage, end suction centrifugal pumps.
- Main pump dimensions are compatible with DIN 24256 (ISO 2858).
- Single entry, closed type impeller is used.
- Radial vanes are used behind the impellers to lower the pressure and to balance the thrust (axial force).
- The pump and the motor are connected by means of a flexible coupling on a common base plate.
- Maintenance of the pump is very easy. The shaft and other rotating parts can be removed without dismantling the suction and the discharge system.
- Since the pump uses many standard parts, spare parts are readily available.
- These pumps are designed so that there is no need for external cooling. Due to natural convection the pump temperature decreases towards the roller bearing.

GENERAL SPECIFICATIONS	
Suction Flange	DN 50...DN 125
Discharge Flange	DN 32...DN 100
Operating Pressure	16 Bar
Motor Speed	1500 – 3000 RPM
Flow Rate	10 – 400 m <sup>3</sup> /h
Head Pressure	5 – 90 m

## NMP SERIES



### End-Suction Pumps Stainless Steel Sheet



#### FIELDS OF APPLICATIONS

NMP series stainless centrifugal pumps having a wide field of application. This serie is used in the transport of water and industrial fluids and can be worked on different temperature, flow and pressure range. General fields of applications are as follows.

- Water Supply: Water Filtration and transportation, Pressurized the main channel
- Industrial pressurization: wetting and Cleaning System
- Transportation of industrial liquid: Textile Dye house, Pharmaceutical, Food, Chemical, Water Supply boiler, condenser, cooling and air conditioning systems, transportation of acid and alkali-based liquid
- Water Treatment, Water Filtration (reverse osmosis) Systems, Swimming Pools

#### DESIGN

- The pump parts are made of high strength, high-quality, corrosion-resistant stainless steel.
- Horizontal or vertical mounting options are available.
- Thanks to back pull out, easy access to impeller and seal is provided without removing suction and discharge line.
- Alignment errors are reduced and the smooth installation due to centered discharge outlet at the upper side and support legs under the casing.
- High operating efficiency - low operating costs
- The noise level has been reduced because of lightweight and compact design.
- Using high quality bushings and o-rings, ensuring compliance standard pumping process and high-temperature and chemical environments.
- When using only mechanical seal at monobloc model, mechanical seal or soft packing is used at coupling connection model.

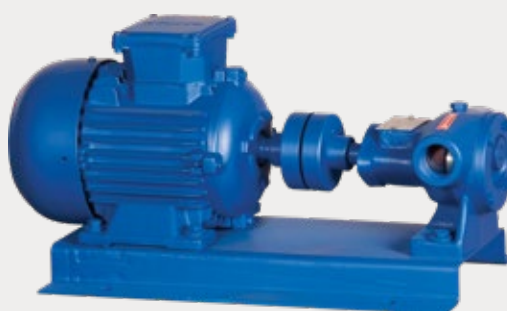
#### GENERAL SPECIFICATIONS

Suction Flange	DN 40 – DN 100 (TS EN 1092 – 2)
Discharge Flange	DN 32 – DN 80 (TS EN 1092 – 2)
Operating Pressure	10 Bar
Ambient Temperature	Up to + 40 °C
Fluid Temperature	-20 °C +100 °C
Flow Rate (Q)	3 – 200 m <sup>3</sup> /h
Head Pressure	10 – 70 m

## DP SERIES



### Gear Pumps



#### FIELDS OF APPLICATIONS

- Pumping high viscosity pure liquids.
- Diesel oil and fuel oil installations.
- Transportation of viscous liquids.

#### DESIGN

- The pump consists of two telescopic gears. The system is so simple that the probability of breakdown is very low.
- The gears ensure that all pressure remains below the limit of the system.
- Since the gears normally regulate themselves it is not necessary to regulate the pressure at the discharge port of the pump by means of a valve.
- The pump is made of leak-free with special seals.
- The pumps have high performance, safe operation and easy maintenance.

#### GENERAL SPECIFICATIONS

Suction Flange	1" – 2"
Discharge Flange	1" – 2"
Flow Rate	1 – 10 m <sup>3</sup> /h
Motor Speed	1000 – 1500 RPM
Head Pressure	30 – 90 m
Fluid Temperature	-20 – 140 °C

## YKF SERIES

### Gear Pumps



#### FIELDS OF APPLICATIONS

- Fuel Oil Service Tanks, Gas Oil, Diesel-fuel Tanks.
- On a small scale hot oil circulations
- Half viscose liquids of industry are on pumping
- Process
- Medicine, Chemistry and Detergent Industry
- Food Industry

#### DESIGN

- "Gear-within a gear" principle has only two moving parts. It is the secret of dependable, efficient operation of all positive displacement gear pumps.
- Liquids to be pumped by the gear pump must be clean rather than liquids to be pump by the other pump types. Thus, performance of the gear pump is provided to rise to the highest point.
- Positive displacement of liquid is achieved by filling the gap between the rotor and teeth of idler gear.
- Sealing is provided by soft packing or mechanical seals.
- Crescent-shaped piece on the pump cover acts as a seal (gasket) between the suction and discharge mouth by splitting the liquid.

#### GENERAL SPECIFICATIONS

Flow Rate	1-200 m <sup>3</sup> /h
Head Pressure	30-90 m
Motor Speed	1-1500 RPM
Operating Pressure	0-10 bar
Temperature	0-200 °C
Viscosity	100-250000 SSU

## 2HM/2VM SERIES

### Screw Pumps



#### FIELDS OF APPLICATIONS

- Oil Industry: Transfer pump for various lubricating oil, crude oil, residual oil, heavy oil, pitch, diesel oil, gasoline etc.
- Ship Building: Transfer pump for various light or heavy fuel oil, waster oil, dirty oil and sludge, oily sludge in cabin bottom, also as pressure boost pump and ballast pump.
- Chemical Industry: Transfer various acid, alkali and salt solution, resin, glycerin paraffin wax, and cosmetics emulsion, also as bottle filling pump.
- Paint Industry: Deliver printing ink, color, various paint and coating.
- Transfer Industry: Loading and unloading oil goods for oil pool and tanker.

#### DESIGN

- Twin-screw pump can transfer liquids that are not solid or high viscosity like paste, used in many different fields.
- The twin screw pumps with a very wide range of applications provide to transfer fluids containing gas, and various liquids as reliable without the risk of corrosion or lubrication.
- The pump casing has enough medium without working, because the inlet and outlet casing of the pump adopt special design. This allows having a good self-priming performance of the pump and water in the inlet line is discharged quickly.
- In case of high pressure, fluid is directed from the discharge side to the suction side in order to reduce driving torque of the pump thanks to the special design the by-pass valve on the pump.
- Synchronous gear with individually lubrication transfer torque form power screw to idler screw, for assuring without constant and without kinetic deliver between transfer elements. So that transfer element has high reliability when it transfers various mediums, at the same time the pump doesn't damage when it works without oil in a short time.
- Specially designed hydraulic structure provides non-impact fluid transfer by driving the shaft from suction side to the discharge side.
- The pump casings of twin screw pump can choice different constructions, so that it can transfer different medium under different temperature.

#### GENERAL SPECIFICATIONS

Flow Rate	0-2500 m <sup>3</sup> /h
Head Pressure	0-600 m
Speed Range	1000-3600 RPM
Operating Pressure	0-60 bar
Temperature	-30-300°C
Viscosity	0,5-100 mm <sup>2</sup> /s



## UKM-S SERIES



### Self-Priming Centrifugal Pumps



#### FIELDS OF APPLICATIONS

- Pumping of residential and industrial crude sewage liquids.
- Sewage treatment installations.
- Pumping of liquids containing sludge and solid particles.
- Pumping of waste water from factories.
- For use in all kinds of drainage and discharge systems.

#### DESIGN

- UKM - S series pumps are self-priming centrifugal pumps with upper suction flap.
- Since they are self-priming pumps it is only necessary to place the end of the suction pipe into the liquid to be pumped.
- A flexible coupling or a V-belt pulley can be used to start up the pump directly in the case of a Diesel or an electric motor."
- UKM - S series consists of 6 different types: 2", 3", 4", 6", 8", 10".
- The impellers are two-vane, open type and can pump up to 76 mm (3") solid particles depending on the size of the pump.
- The suction cover can be removed from the front, making it easy to reach the impeller. Any obstruction can be removed without touching the suction and discharge parts.
- The flap connected to the suction flange has been specially designed so that it is possible to clean or to remove and install the flap without touching the suction system.
- The roller bearing (bearing bushing) is supported by the pump body. There can be no problem in speed up.
- UKM series pumps are very easy to use because they are of self-priming type. Once the suction pipe is placed into the liquid the pump starts to function in one minute maximum depending on the suction height.

#### GENERAL SPECIFICATIONS

Flow Rate	50 – 730 m <sup>3</sup> /h
Head Pressure	4 – 40 m
Speed Range	650 – 2900 RPM
Suction Flange	2" – 10" (PN 10)
Discharge Flange	2" – 10" (PN 10)

## UKM-M SERIES



### Self-Priming Close Coupled Pumps



#### FIELDS OF APPLICATIONS

- Sewage sludge transfer pump
- Bilge Pump
- Ballast Pump
- General Service Pump
- Emergency Fire Pump
- Cooling Water Pump

#### DESIGN

- UKM-M 50 Series self priming wastewater pumps come with a compact design
- Specially designed open impeller structure provides its self priming capacity without compromising its hydraulic performance. Maintenance and cleaning of the pump can easily be done thanks to its simple assembly and disassembly.
- Usage of mechanical seal in these pumps, assures perfect sealing and a clean environment.
- Stainless steel shaft is standard material in these series however bronze casting material is offered against corrosion for seawater applications.

#### GENERAL SPECIFICATIONS

Flow Rate	5 – 45 m <sup>3</sup> /h
Operating Pressure	10 – 40 m
Suction Head	7 m
Temperature	50 °C
Motor Speed	2800 – 3600 RPM
Pipe Connections	2" Suction – Discharge

## ENDURO SERIES



### Submersible Sewage and Wastewater Pumps



#### FIELDS OF APPLICATIONS

- Transportation of domestic and industrial raw sewage
- Sewage treatment plant
- Transportation of liquids containing mud and solid parts
- Transportation of factory waste fluids
- Liquids containing fibrous particles and other applications.

#### DESIGN

- It can pump different kinds of wastewater by single vane, double vane or free-vortex impeller type.
- High hydraulic efficiency is obtained with electrical motor that has IP 68 protection and IE 2 or IE3 (optional) efficiency class.
- Watertight cable entry system prevents capillary action and protects against humidity; it reduces maintenance costs.
- Stuffing box in the helical structure, by keeping solid particles contained in the waste water away from the mechanical seal, protects the mechanical seal and provides a long working life.
- In pump, an electrode system is used in case of water leakage caused by worn out mechanical seal or any other reason.
- Pump is fully protected with a protection relay against possible electric motor overheat, overload and phase failure problems.
- H70RN-F class rubber coated cables, high resistance to corrosiveness of sewage water. If the cable gland seal fails, the cable gland sealed with resin prevents any possible leakage into the motor housing.
- Single and double row bearings ensure reliable operation by carrying long loads on the pump.
- There is a double mechanical seal system which is positioned in an oil bath as tandem for optimum operational safety.

#### GENERAL SPECIFICATIONS

Discharge Flange	DN 50 – DN 200 (PN 10- PN 16)
Impeller Diameter	ø140 – ø360 mm
Flow Rate	Up to 600 m <sup>3</sup> /h
Head Pressure	Up to 45m
Motor Speed	Up to 3600 RPM
Temperature	Up to 40 °C
Casing Pressure (Pmax)	10 Bar

## ENDURO LITE SERIES



### Submersible Pumps For Unwatering



#### FIELDS OF APPLICATIONS

##### **ENDURO 50 Lite / 100 Lite / 150 Lite**

- These pumps having open impeller being made of Noryl material can be used in pools and waterfalls and backwater evacuations in buildings. Their maximum head is 14 m and they can discharge max 3 mm particle.

##### **ENDURO 150S Lite**

- These pumps having close impeller being made of AISI 304 INOX stainless steel material can be used in decorative pools, waterfalls and backwater evacuations in buildings. Their maximum head is 20 m and they can discharge max 6 mm particle.

##### **ENDURO 150F Lite**

- These pumps having open impeller being made of AISI 304 INOX stainless steel material can be used in discharging of sewage liquids containing max 20 mm particle and industrial and domestic wastewater and rain water. Also they can be used in little pools and waterfalls. Their maximum head is 12 m and they can discharge max 20 mm particle.

##### **ENDURO 200S Lite**

- These pumps having open impeller being made of cast iron material can be used in decorative pools, waterfalls and backwater evacuations in buildings. Their maximum head is 20 m and they can discharge max 6 mm particle.

#### GENERAL SPECIFICATIONS

Fluid Temperature	0 – 30 °C
Protection Class	IP 68
Insulation	CLF
Cable Length	10 m
Mechanical Seal	Silicium / Silicium

## ENDURO-PRO SERIES

### Surface Type Sewage and Wastewater Pumps



#### FIELDS OF APPLICATIONS

- Water treatment plants
- Flooded water transfer
- Liquids containing sludge, fibrous and solid particles
- Domestic and industry sewage
- Activated sludget

#### DESIGN

- Thanks to a special impeller designs (X Type Free-Vortex Impeller, S Type Single Vane Impeller and D Type Double Vane Impeller) this series is used different fields and different kinds of waste can be pump depending on the impeller structure.
- This series can be coupled with diesel engine and high-efficiency IE2 or IE3 (Optional) class electric motor.
- Thanks to back pull out design, the rotating parts of the pump are provided to change for maintenance and repair without removing suction and discharge line.
- An extended service life is achieved by generously dimensioned shafts and bearings.
- Various assembly options are possible - mono block, coupling, belt driven and vertical assembly.
- Different accessory options are available to extend mobility and protection of the pump - Stationery Cabinet System, Mobile Cabinet System and trailer assembly options.
- Optimized oil chamber for lubrication and cooling of the mechanical seals.
- Thanks to special stuffing box design spiral grooves in the big helical seal chamber avoid contamination of the sealing environment with solids.
- Bearings can be lubricated either by oil or grease depending on the operating conditions of the pump and environment.
- Double and cartridge mechanical seal system design located in an oil bath for optimal operational security. Used SiC material for all types.

#### GENERAL SPECIFICATIONS

Discharge Flange	DN 50 – DN 300
Impeller Diameter	ø140 – ø330 mm
Flow Rate	20-1500 m <sup>3</sup> /h
Head Pressure	10-50 m
Motor Speed	Up to 3600 RPM
Operating Pressure	10 Bar

## PS/PSH SERIES

### Wastewater Sump Pumps



#### FIELDS OF APPLICATIONS

- Drainage of dirty water pits in furnace rooms.
- Pumping of residential and industrial raw sewage liquids.
- Drainage in sewage treatment plants.
- Pumping of liquids containing sludge and solid particle.
- Pumping of waste water from factories.
- Pumping of viscous liquids and suspensions.
- Pumping of liquid wastes of dye installations.
- In all kinds of drainage and discharge systems.
- Paper and cellulose industries.

#### DESIGN

- PS/PSH series pumps are vertical shaft pumps that operate by means of a special bearing system.
- The suction flange and the impeller are within the outlet and are faced with a filter.
- The pump shaft is connected to the motor by means of flexible coupling.

#### GENERAL SPECIFICATIONS

Discharge Flange	DN 50 (2")
Motor Speed	1500 RPM
Flow Rate	4,5 – 25 m <sup>3</sup> /h
Head Pressure	4 – 19 m
Operating Pressure	10 Bar (16 Bar)
Impeller Diameter	Ø150 – Ø260 mm



**Chemical Sump Pumps**



**FIELDS OF APPLICATIONS**

- Fibrous sewage discharge.
- Industrial plants.
- Tank evacuation.
- Corrosive liquids.
- Evacuation of bilge water in ships.
- Chemical Slurries.

**DESIGN**

- Single stage, vertical shaft processing pumps with open or vortex type impellers
- The open impellers are connected to the shaft by a wedge.
- The impellers are balanced according to ISO G 6.3. The back vanes of the impeller reduce the axial thrust and prevent the intake of solid particles.
- The cranks are designed so as to maximize hydraulic performance. The gear connection with the discharge pipe enables the moving of the discharge pipe without having to remove the pump from the well.

GENERAL SPECIFICATIONS	
Flow Rate	3 – 80 m <sup>3</sup> /h
Head Pressure	15 – 50 m
Operating Pressure	6 bar
Motor Speed	1000 – 3600 RPM
Discharge Flange	DN32 – DN50
Impeller Diameter	Ø120 – Ø150 mm



**Sump Pumps**



**FIELDS OF APPLICATIONS**

- Industrial process
- Industrial sump wastes
- Chemical Liquids
- Refining plants
- Casting centrals
- Coal thermic centrals
- Iron and steel industry
- Petro-chemical industry
- Wastewater, oil, and mud pumping
- Clean water
- Liquids containing sludge, fibrous and solid particles

**DESIGN**

- MDP Series submerged wastewater pumps can transmit solid and fibrous particles easily by optional impeller and volute casing designs.
- Their impellers are balanced dynamically according to ISO 1940/1- 6.3
- For radial loads, bearing are made at the pump inlet.
- Extra intermediate bearings are used to make shaft construction more rigid as pipe length increases. The steel column, which protects the shaft from external factors, is protected by mechanical seal on the pump to prevent the liquid reach to bearings and surface of the shaft.

GENERAL SPECIFICATIONS	
Discharge Flange	Up to DN 200
Operating Pressure	10 Bar (16 Bar)
Impeller Diameter	Ø 120 – Ø 380
Flow Rate (Q)	10 – 800 m <sup>3</sup> /h
Motor Speed	1450 RPM
Temperature	Up to 90° C
Head Pressure	35 m

## Wastewater and Sewage Lifting Stations



### FIELDS OF APPLICATIONS

“BLACKBOX” is a complete system with a Polyethylene closed tank which collects surface drains and wastewater below counter pressure level and pumps these to higher elevation sewage systems. BLACKBOX facilitates optimal usage even in narrow areas.

### STANDARD DESIGN

- Tank Volumes are 400, 750 and 1000 lt.
- Specially designed Tank Lid prevents leakage of odors.
- Wastewater in the tank is discharged at shortest time.
- Submersible pumps are mounted inside the tank via guide rails which enables easy installation and dismounting
- A ball check valve on pump discharge line prevents return of waste water back to the tank. Therefore, working losses are minimized and pump life is extended.
- 10m long hoisting chain and level switch with 5 m long cable are delivered alongside the pumps.
- Please consult to our company out of existing models on the below table.



### OPTIONAL DESIGN

- Tank models for 1500 liter, 2000 liter or higher capacities.
- Strainer system which will hold big solid particles in water while the waste water is entering to tank.
- Stainless steel installation in the tank.
- 3 pieces pear shaped level float switch in the tank.

PUMP MODEL	BLACKBOX 400	BLACKBOX 750	BLACKBOX 1000
Enduro 50-160 1,5 kw 2900 RPM Open Impeller (D) , Vortex (X) , Grinder Blade (PB)	√	√	√
Enduro 50-160 2,2 kw 2900 RPM Open Impeller (D) , Vortex (X) , Grinder Blade (PB)	√	√	√
Enduro 50-160 3 kw 2900 RPM Open Impeller (D) , Vortex (X) , Grinder Blade (PB)	√	√	√
Enduro 50-160 4 kw 2900 RPM Open Impeller (D) , Vortex (X) , Grinder Blade (PB)	-	√	√
Enduro 50-160 5,5 kw 2900 RPM Vortex (X) , Grinder Blade (PB)	-	√	√
Enduro 50-200 3 kw 2900 RPM Open Impeller (D)	-	√	√
Enduro 50-200 4 kw 2900 RPM Open Impeller (D) , Grinder Blade (PB)	-	√	√
Enduro 50-200 5,5 kw 2900 RPM Open Impeller (D) , Grinder Blade (PB)	-	√	√
Enduro 50-200 7,5 kw 2900 RPM Open Impeller (D) , Grinder Blade (PB)	-	√	√
Enduro 50-200 11 kw 2900 RPM Open Impeller (D) , Grinder Blade (PB)	-	√	√



## FIFI System Pumps



### FIELDS OF APPLICATIONS

- Fi-fi systems for fireboats
- Fresh water and sea water pumping in ships.
- Large fire extinguishing systems.
- Industrial and social installations.

### DESIGN

- These are horizontal type, single stage, single entry, horizontal volute type pumps with a horizontal suction port on the axis and the discharge port on the top, and an enclosed impeller.
- Since the volute is symmetrical it can be assembled to be used in either direction. Thanks to this feature, it can also be used with motors which rotate counterclockwise.
- ENM pump impellers are of double inducer type. The impellers are dynamically balanced to the base. The axial thrust is compensated by rear back wear rings and balance holes.
- The pumps are equipped with a rigid shaft that can operate under different loads.
- The sliding bearing within the suction body is lubricated with water.
- The construction is compact thanks to the short distance between the bend-resistant shaft and bearing and the volute. This feature allows it to be used in space-restricted (eg. Marine Fire Brigade).
- In standard configurations, two roller bearings are used. A console bearing is optional.

#### GENERAL SPECIFICATIONS

Flow Rate	400 – 4000 m <sup>3</sup> /h
Head Pressure	60 – 150 m
Operating Pressure	16 Bar
Temperature	-20 – 110 °C
Speed Range	1000 – 1800 RPM
Suction Flange	DN 300 – DN 500
Discharge Flange	DN 250 – DN 400



## In-line Type Centrifugal Fire Pumps



### FIELDS OF APPLICATIONS

- Hospitals
- Offices
- Airports
- Factories
- Power plants
- Schools
- Pharmacies
- Warehouse

### DESIGN

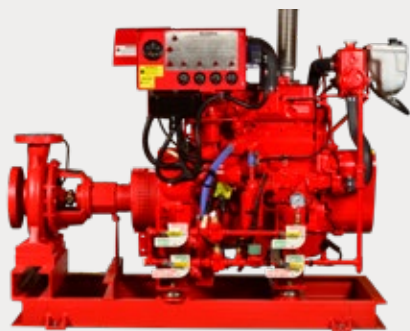
- These are single stage, vertical shaft in-line type centrifugal pumps.
- The single suction, closed type impeller is dynamically balanced against thrust (axial force) by use of balance holes and back wear rings.
- The pump and the motor are connected by means of an adapter using a special rigid coupling.
- Maintenance and repair are easily carried out due to the feature that the pump can be detached from the plumbing works with its body remaining connected to the bed.
- In accordance with the NFPA fire standard the shaft non-leakage is provided by soft packing seals.
- The pump has been especially designed for part interchangeability thus making spare part acquisition easy and fast.

#### GENERAL SPECIFICATIONS

Suction Flange	DN 65... DN 125
Discharge Flange	DN 40... DN 100
Flow Rate	34 – 170 m <sup>3</sup> /h (150-750 gpm)
Head Pressure	30 – 140 m (43-199 psi)



**End Suction Centrifugal Fire Pumps**



**FIELDS OF APPLICATIONS**

- Hospitals
- Offices
- Airports
- Factories
- Power

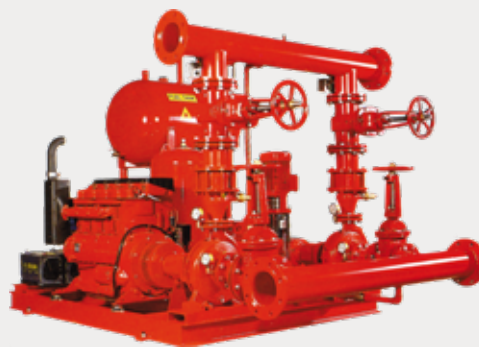
**DESIGN**

- These are end suction, single stage centrifugal pumps. These three pumps, YNM 525, YNM 825 and YNM 1531 are used for flow rates ranging between 50 and 1250 gpm.
- The main pump dimensions are compatible with DiN 24256. The pump flanges are designed according to UL standards ANSI/ASME B16 Class 250.
- The pump performances are compatible with UL standards.
- The single suction, closed type impeller is dynamically balanced against the thrust by use of back wear rings.
- Shaft leak prevention is provided by 5 unit soft packing according to UL448 requirements.
- The parts inside the pumps that are in contact with water, such as bolts or bolt screws, are made of non-corrosive materials.

GENERAL SPECIFICATIONS	
Flow Rate	50 – 1250 gpm (10 – 280 m <sup>3</sup> /h)
Head Pressure	80 – 155 psi (55 – 110 m)
Operating Pressure	14 Bar
Temperature	0 – 60 °C
Speed Range	2900 RPM
Suction Flange	DN 80 – DN 200
Discharge Flange	DN 50 – DN 150



**End Suction Centrifugal Fire Pumps**



**FIELDS OF APPLICATIONS**

- Hospitals
- Offices
- Airports
- Factories
- Power plants
- Schools
- Pharmacies
- Warehouse

**DESIGN**

- These are single stage, end suction centrifugal pumps.
- The main pump dimensions are compatible with DiN 24256 (ISO 2858).
- Performances are compatible with NFPA standards.
- The single entry, enclosed impeller is dynamically balanced against thrust (axial force) by means of balance holes and back wear rings. The pump and the motor are connected by flexible coupling onto a common base plate.
- Shaft leak prevention is provided by soft packing gaskets according to NFPA requirements.
- The maintenance of the pump is very easy. The shaft and the rotating parts can easily be removed without touching the suction and discharge systems.
- Since there are very many common parts it is easy find and store spare parts

GENERAL SPECIFICATIONS	
Suction Flange	DN 65... DN 125
Discharge Flange	DN 40... DN 100
Flow Rate	11 – 227 m <sup>3</sup> /h
Head Pressure	30 – 140 m

**Pumps Split Case Double Suction Centrifugal Fire**



**FIELDS OF APPLICATIONS**

- Fire systems
- Hospitals
- Offices
- Airports
- Factories
- Power plants
- Schools
- Pharmacies
- Warehouse

**DESIGN**

- Single stage, horizontal, separable body, radial impeller, double suction pumps.
- The back-to-back design of the double entry radial impellers eliminates all thrust.
- The suction and discharge flanges are along the same axis.
- Easy assembly feature.
- Double suction pumps have the advantage of low NPSH features.
- The pump and electric motors are connected to the chassis by means of flexible. Diesel motors can also be used.
- in standard manufacture, the impeller, the body abrasion gasket and the gland are bronze while the casing is of stainless steel

**GENERAL SPECIFICATIONS**

Flow Rate	100 – 2000 GPM (23 – 454 m <sup>3</sup> /h)
Head Pressure	60 – 274 psi (44 – 188 m)
Operating Pressure	16 - 24 Bar
Speed Range	1800 – 2900 RPM
Suction Flange	DN 100 – DN 250
Discharge Flange	DN 65 – DN 200

**End Suction Centrifugal Fire Pumps**



**FIELDS OF APPLICATIONS**

- Hospitals
- Offices
- Airports
- Factories
- Power plants
- Schools
- Pharmacies
- Warehouse

**DESIGN**

- These are single stage, end suction centrifugal pumps.
- The main pump dimensions are compatible with DiN 24256 (ISO 2858).
- Performances are compatible with NFPA standards.
- The single entry, enclosed impeller is dynamically balanced against thrust (axial force) by means of balance holes and back wear rings. The pump and the motor are connected by flexible coupling onto a common base plate.
- Shaft leak prevention is provided by soft packing gaskets according to NFPA requirements.
- The maintenance of the pump is very easy. The shaft and the rotating parts can easily be removed without touching the suction and discharge systems.
- Since there are very many common parts it is easy find and store spare parts.

**GENERAL SPECIFICATIONS**

Suction Flange	DN 80.. DN 250
Discharge Flange	DN 65.. DN 200
Flow Rate	50 – 2500 m <sup>3</sup> /h
Head Pressure	20 – 180 m
Operating Pressure	16 – 20 Bar
Speed Range	1450 – 3600 RPM



## HDSH SERIES



### Single Phase Stainless Steel Pumps



#### FIELDS OF APPLICATIONS

- Apartments and residences
- Schools, business centers and small industrial installations
- Hotels and social installations.

#### DESIGN

- in HDSH series booster pumps, the centrifugal pump is placed on a horizontal footed tank is fitted with a membrane.
- The membrane is Butyl-Membrane which is compatible with standards of health. Located inside the tank, the membrane accords with German standards of health and is the type that gives no odor to water and prevents bacterial growth.
- The pump is sold as a complete package, including the balance tank, and silent and fully automatic with low electric consumption and economical operations.
- All elements that come into contact with water are made of non-corrosion materials.
- Since the pump is mounted on the tank it does not occupy too much space.
- Mechanical seal completely prevents leakage.
- Assembly is easy and economical

#### GENERAL SPECIFICATIONS

Flow Rate	1 – 8 m <sup>3</sup> /h
Head Pressure	12 – 60 m
Operating Pressure	8 Bar
Speed Range	2900 – 3600 RPM
Suction Flange	1" – 1 1/2"
Discharge Flange	1"

## HDSV SERIES



### Single Phase Stainless Steel Pumps



#### FIELDS OF APPLICATIONS

- Apartments and residences
- Schools, business centers and small industrial installations

#### DESIGN

- Single and multi-pump boosters with vertical multi-stage pumps
- The pumps have stainless steel body, shaft and impeller
- All elements that come into contact with water are made of non-corrosion materials.
- Simple body and perfect balance provide for low noise and vibration.
- Mechanical seal completely prevents leakage.
- Frequency control devices enable energy consumption.
- High performance, safe operation and easy maintenance.

#### GENERAL SPECIFICATIONS

Flow Rate	1 – 80 (320) m <sup>3</sup> /h
Head Pressure	0 – 150 m
Operating Pressure	30 Bar (Max.)
Motor Speed	2900 RPM
Temperature Rate	-150 °C / +1200 °C

### Stainless Steel Vertical Booster Sets- Frequency Controlled



#### FIELDS OF APPLICATIONS

- Apartments and residences
- Schools, business centers and small industrial installations
- Hotels and social installations.

#### DESIGN

- The pumps used in HDSV GENiO type water pressure boosters are multistage stainless steel centrifugal pumps with vertical shaft and frequency inverter on-motor.
- HDSV GENiO type water pressure boosters can be manufactured in the form of one, two, three or four pumps according to flow rate need.
- Water pressure boosters can be operated automatically or manually. Water pressure boosters should be automatically operated as long as there is no compulsory case.
- The set is supplied with float switch that regulates dry run protection.
- During first operation of water pressure booster system, the suction collector should be filled with water and the air of the system should be released.
- The water should be come to suction collector in shortest way and flatly, suction diameter coming from tank should not be smaller than suction collector diameter.
- For regular operation, pressure tank should be used in appropriate size in order to decrease start number of the pump.
- Pumps run automatically by pressure control depending on required water volume and stop running when the required water volume decreases.

GENERAL SPECIFICATIONS	
Flow Rate	1 – 320 (4x80) m <sup>3</sup> /h
Head Pressure	0 – 150 m
Operating Pressure	20 Bar (Max.)
Motor Speed	2900 RPM
Temperature Range	-15 °C / +120 °C

### Single and Multi Pump Unit Boosters



#### FIELDS OF APPLICATIONS

For pumping of thin, clean, non-aggressive and non-explosive liquids free from solid particles and fibres in:

- Water supply systems,
- Booster sets in high rise buildings and industry,
- Water treatment systems,
- Industrial facilities for process water,
- Sanitary and cleaning installations,
- Irrigation plants,
- Fire extinguishing plants,

#### DESIGN

- In DM series booster sets, DF type pumps are used.
- DF series pumps is a vertical axis, ring section design multistage centrifugal pump of non-self priming type. They have an impeller made of noryl material and they are driven with a standard electric motor.
- Pump and motor are connected to each other via rigid coupling.
- The pressure-resistant casing and the components which fluid is flowing through are anchored by using casing studs between top side and bottom side of the pump.
- While suction nozzle is located bottom side of the pump, discharge nozzle is located top side of the pump.
- When viewed from driver side, rotation of direction is clockwise.

GENERAL SPECIFICATIONS	
Flow Rate	2 – 240 m <sup>3</sup> /h
Head Pressure	20 – 150 m
Operating Pressure	16 Bar (Max.)
Temperature Range	0 – 60 °C
Motor Speed	2900 RPM

## DSP SERIES

### Single Pump, Mono-Phase Boosters



#### FIELDS OF APPLICATIONS

- Apartments and residences
- Schools, business centers and small industrial plants

#### DESIGN

- Mechanical seal completely prevents leakage.
- Ready for use with all elements intact.
- Assembly is easy and economical.
- Pump stage numbers varies between 4 and 10.
- This is the choice of completely stainless steel materials.
- Provides for extra comfort due to the low pressure between entry and discharge.
- Protection system against dry operation is available

#### GENERAL SPECIFICATIONS

Flow Rate	0 – 4 m <sup>3</sup> /h
Head Pressure	20 – 78 m
Operating Pressure	8 Bar
Speed Range	2900 – 3600 RPM
Suction Flange	1" ¼"
Discharge Flange	1" ¼"

## SUPERDAF SERIES

### Single Pump Boosters



#### FIELDS OF APPLICATIONS

- Apartments and residences
- Schools, business centers and small industrial installations

#### DESIGN

- Booster pump set that has a single pump, multistage centrifugal pump with the motor block mounted on the pump.
- Number of pump stages range between 4 and 10.
- Quiet, comfortable and reliable, multi-stage pump package booster pumps
- Mechanical seal completely prevents leakage.
- All materials are ready for use.
- Assembly is easy and economical.
- Available in all stainless steel parts.
- Triphase/monophase available.

#### GENERAL SPECIFICATIONS

Flow Rate	0 – 4 m <sup>3</sup> /h
Head Pressure	20 – 78 m
Operating Pressure	8 Bar
Speed Range	2900 – 3600 RPM
Suction Flange	1" - 1 ¼"
Discharge Flange	1" - 1 ¼"

### Interchangeable Membrane Pressure Tanks



#### FIELDS OF APPLICATIONS

- Heating, air condition systems and industrial installations as single or double pipe systems
- Floor heating, primary loading stages
- Used in boiler or tank filling stages

#### DESIGN

- inside the vessels used in sanitary applications is a totally hygiene butyl membrane that will not taint the water with odor. The membrane used in heating and cooling systems is made of EPDM that is surrounded with nitrogen gas under pressure.
- To protect against corrosion, the outer surfaces of the vessels are painted with electrostatic baked powder paint. The inner surface of the condensations tanks with changeable membrane is corrosion resistant as long as there is no damage to the membrane and the surface does not come into direct contact with water
- Under normal conditions (no foreign particles being present in water and stich number being properly selected) the closed pressure tanks have a very long lifetime.

SERIES NAME	P PRE	P MAX	T MAX	CAPACITY
TH	2 Bar	6 – 8 Bar	99	8 – 25 Lt.
TH	2 Bar	8 – 10 Bar	99	40 – 110 Lt.
T	1,5 Bar	6 – 8 Bar	99	8 – 50 Lt.
TM	2 Bar	8 – 10 Bar	99	60 – 1000 Lt.
TM	2 Bar	8 – 10 Bar	99	1500 – 5000 Lt.
TR	5 Bar	15 Bar	70	110 – 1000 Lt.

### Automatic Self-Priming Systems



#### FIELDS OF APPLICATIONS

- MAS-ASP ve MAS-VSP suction systems are suitable for liquid not containing solid particles.
- They are available for systems that do not allow dry operation.
- They are also suitable for liquids containing gases

#### DESIGN

- **MAS-ASP** Automatic aspirator designed for the priming of centrifugal pumps where dry running is not admissible. It guarantees reliable priming. If the discharge pressure falls during operation, the aspirator starts up once more for re-evacuation. Made of polyethylene material ejector elements are resistant as physically and chemically against a lot of fluids including sea water.
- **MAS-VSP** Automatic self-priming unit with vacuum pump, designed for the priming of centrifugal pumps where dry running is not admissible. It guarantees reliable priming. If the discharge pressure falls during operation, the aspirator starts up once more for re-evacuation. Made of bronze material pump elements are resistant as physically and chemically against a lot of fluids including sea water.

GENERAL SPECIFICATIONS / ASP	
Operating Voltage	24 V – 50 / 60 Hz.
Protection Class	IP 65
Necessary Power	20 VA
Level Relay Power	Max. 100 VA
Nominal Pressure	PN 10
Ejector Size	3.5 mm
Suction Capacity	300 nl/ dk
Necessary Air Flow	100 l/min (to 6 bar)
Pressure Range	6 – 9 Bar
Max. Suction Depth	6 m
GENERAL SPECIFICATIONS / VSP	
Operating Voltage	24 V – 50 / 60 Hz.
Protection Class	IP 54
Motor Power	1.5 Kw
Level Relay Power Max	100 VA
Nominal Pressure	PN 10
Suction Capacity	300 nl/min
Max. Suction Depth	6 m.
Servis Water Tank	4 Lt.

## Frequency Controlled Systems



### FIELDS OF APPLICATIONS

- Instant pressure value, frequency, current value, rotation of motor, output voltage, output power, analogue values from sensors and set pressure value can be read through the LCD graphic display.
- Rotation system, distributing management period equally to pumps (line control) in multi-pumps systems.
- It can communicate with external units (building automation system or PLC etc.) by RS 485 cable with MOD-BUS communication protocol.
- It alarms by showing error code on the display in case of failure.
- It has the protection against high and low pressure.
- Maximum and minimum operating frequencies of the inverter can be set.
- Cooling fan of the frequency inverter can operate on mode of automatic or continuous working.
- Operating continuity of the system is provided by deactivating faulty pump and putting into use stand-by pump automatically in multi-pumps systems.
- The system stops the pumps automatically by passing stand-by mode in case of unnecessary conditions.
- The pumps can operate at specified frequency value without the sensor through emergency mode selection.
- Motor rotation direction can be changed on the program.
- It has five different types of protection against operation without water in case of water lack:
  - According to current of the motor
  - According to outlet pressure of the system
  - According to inlet pressure of the system
  - By making a connection of floater
  - By making a connection of fluid level electrode on the suction collector
- It has the protection against over-current, over-voltage and phase failure.
- Record of last two failures can be displayed.
- Total operating time of each pump can be displayed.
- Date and time setting feature is available (Real Time Clock – RTC).
- It can operate according to the preset time and date or preset set pressure by the time-adjusted operation mode option.
- English and Turkish language options are available.
- Set pressure of the system can be fixed easily.
- It is possible to set which parameters can be displayed on the screen.
- The acceleration and deceleration times of the pumps can be set.
- It is password-protected against unauthorized persons.
- It has the protection against frost with antifreeze feature.
- Two pumps can be operated with a frequency inverter by using relay output.

- Frequency inverters communicate with RS 485 cable between each other so six pumps can operate together with multi-pumps system option.
- Process control characteristic can be calibrated by changing PID parameters.
- It can be mounted directly on motor and it does not need any external control panel, necessary cabling is decreased so it has compact and portable design.
- 0.75 - 18.5 kW power range
- 380 V three phase input voltage
- 50-60 Hz input frequency.
- 0-600 Hz output frequency.
- It has IP 65 high protection class.
- It can be programmed easily.
- It has two pressure transmitter inputs (analogue). If the transmitter fails it can step in with the other transmitter. The transmitters which can work with frequency inverter.
  - 4-13 V operating voltage, 0-10 V output
  - 10-30 V operating voltage, 4-20 mA output
- It can provide 24 V for external devices.

**NOTE: Genio on-motor frequency inverters are protected by the circuit breaker inside the control panel and the system is protected by the EMC filter from the electromagnetic waves which affect the sinus wavelength.**



### Automatic Priming Systems



#### GENERAL SPECIFICATIONS

- Vacuumax Automatic Priming System, that coupled to the pump, through the outlet checkvalve and priming system with diaphragm, enables to the pump automatic priming in dry conditions and provides superior performance in deep suction.
- Thanks to Vacuumax there is no need to fill water into the casing before the pump is running.
- Developed with special design Vacuumax Automatic Priming System is automatically activated without the intervention pump and Works by filling the pump casing and suction line by the fluid (in the system).
- Vacuumax ensure the continuity of the flow by activating, if suction pipe remove the fluid or there is leakage at the system.
- Shaft construction and bearings of the priming system with diaphragm is designed to the equivalent of the pump life.
- Check valve system with ball, allows making the suction of the pump system reducing to zero air and water flow between the suction line and discharge line. When completely full of water into the pump check valve opens the discharge line way of the fluid by coming to the open position.
- When the pump starts operating suction system is activated, the system is driven without the need for a second motor.
- The entire system has a more compact structure taking place on a single chassis.



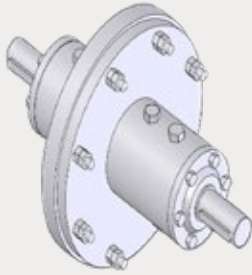
#### GENERAL SPECIFICATIONS

- Trailer systems are all devices that enable the pump systems to be mobile, and that allow them to be easily transported even to difficult locations where pumping is to be done.
- This system is applied to several models within our product range, especially for wastewater pumps UKM-S and Endurp-Pro series.
- Trailer systems can optionally be designed in a way so that they can be allowed to be a part of city traffic. According to system weight ( type O1 for 0-0.75 ton weight ; type O2 for 0.75-3.5 ton weight ), a trailer approval document has to be issued for traffic registration.
- The trailer system are designed as single-axle , but also available for double-axle depending on the system weight.
- They have mechanical impact brake, front arm that is adjustable to level of vehicle and lifting lugs which are suitable for portable with complete trailer crane.
- Also has options as feel wheel or rim wheel that has suitable loading capacity for traffic, signal system (equipment) can be controlled for safety of right-left turns in vehicle, shock absorber and spring axle system.

## MPG SERIES



### Bulk Head Penetration System



#### GENERAL SPECIFICATIONS

- Bulk head penetration enables power transmission to the pump from the motor which is in different room.
- Bulk head penetration can be mounted horizontally and vertically.
- The system can operate in both directions.
- Bulk head penetration consist of transfer member with shaft which is between deck or wall and includes two bearings, oil reservoir to lubricate the bearings and two elastic coupling which located in both motor and pump side and enable the transmission of the torque from motor to the pump.
- Three models are available as MPG 40, MPG 55 and MPG 80

## CONTAINER TYPE FIRE FIGHTING SYSTEMS



#### GENERAL SPECIFICATIONS

- Container type fire fighting systems applicable for all types of fire pumps (like YNM, YPSP and YPH series)
- It delivers effective solutions for fire fighting applications by easy installation and maintenance in industrial facilities, sectors of mining, agriculture, energy and building systems.
- It has many advantages on fields of applications like on domestic purposes.
- Container systems protect your pump in case of external negative effects of environment and defend noise level ambiance to the outdoor.
- It allows using of more than one pump in order to meet the requirements in line with the needs.
- International standard of containers are used in manufacturing of the system.
- Container cabinet pump systems easily transport by truck, train, plane etc... and it can be particularly lifted by crane.

## CABINET SYSTEMS

### Fire Fighting Systems with Cabin



#### GENERAL SPECIFICATIONS

- Cabinet systems applicable for all types of pumps and booster sets especially on YNM, YPSP fire fighting sets and UKM-S type waste water pumps.
- It has many advantages on fields of applications like on domestic purposes.
- Cabinet systems protect your pump in case of external negative effects of environment and defend noise level ambiance to the outdoor.
- Cabinet may manufactured on international standards of container or upon request on required dimensions with specialized noise level isolation.
- Container cabinet pump systems easily transport by truck, train, plane etc... and it can be particularly lifted by crane.

### Wastewater Draining Systems with Cabin



#### GENERAL SPECIFICATIONS

- Wastewater draining systems with cabin applicable for all types of wastewater pumps except submersible and sump pumps
- It delivers effective solutions by easy installation and maintenance in industrial facilities, sectors of mining, agriculture, energy
- It has many advantages on fields of applications like on domestic purposes.
- Cabinet systems protect your pump in case of external negative effects of environment and defend noise level ambiance to the outdoor.
- It allows using of more than one pump in order to meet the requirements in line with the needs.
- Cabinet may manufactured on international standards of container or upon request on required dimensions with specialized noise level isolation.
- Container cabinet pump systems easily transport by truck, train, plane etc... and it can be particularly lifted by crane.

## CONTROL PANEL FOR GENERAL USE



### GENERAL SPECIFICATIONS

- 16 bit microcontroller designed.
- 48mhz running frequency.
- 4x20 character blue screen LCD.
- To see the date and time information on the screen.
- 2 days a week to make the test (Real Time Clock).
- Automatic test and selenoid valve exit.
- 3-phase voltage reading and LCD these.
- Voltage protection, possibility to enter the lower and upper voltage settings on the LCD.
- Pump Circuit, fault and ready To see the status screen.
- Pump currents screen to see.
- Ability to enter independently the current settings on the LCD.
- Recognition mode to calculate the pump current.
- Possibility to limit the engagement number of the pumps in 1 hour.
- Ability to determine the reset time at automatic resetting.
- Ability to reset automatically in error cases and to set the reset number.
- Automatic-manual selection.
- Manuel operation when pressing the test button at manuel.
- Protection agains dry operation without floater and SSR control.
- Protection agains dry operation without floater and SSR by moment control.
- Screen to see all the error conditions.
- With a buzzer and relay contact to notify the general fault conditions.
- Pressure transmitter input and use.
- Pressure transmitter to monitor the measured value LCD.
- To adjust the set pressure value.
- Tracking the operation time of each pump.
- The actual runtime depends on the co-aging.
- All pumps belonging to the PTC (temperature) protection.
- Waste water to be used as panel (menu option).
- Waste water panel water leak terminal.
- Password protection against unauthorized interference.
- Fault recording equipment with date and time the last fault occurred 20 takes memory.

## FREQUENCY CONTROLLED PANEL



### GENERAL SPECIFICATIONS

- Fireplace, Circulation, Heating, Cooling System PID control.
- 3,8 inch colour touch panel, graphic screen. IP65 front panel, inner panel IP20 protection Schneider PLC.
- Atv212 series schneider frequency control unit.
- Real-time co-aging.
- 4 different times during the day in 4 different setpoint.
- VwebGate with access to the system with remote internet and smart phone.
- Direct access with Modbus. Bugnet and compatible with LON protocols (with additional interface)
- Cavitation protection feature
- PIPE-FILL (Pipe filling property) protection against water hammer
- Automatic cleaning When the system is taking a long time to work the pump automatic pump Circuit helps to protect against bacterial growth.
- Remote Set: replaced with 4-20mA analog input-from building automation. (As Standard using the pump differential pressure, the water pump is available as Standard disabling cavitation.
- If cavitation pressure tank and remote set the desired setting additional I / O card is used)
- SOFT RUN- SOFT-STOP There is only one drive in the system. Always enter the Circuit is switched off by the driver and the driver. According to the needs of commissioning at least worked pump, pump the commissioning needs commissioned by the network driver threw 2.pump. Before working with disengaged drive pump passes from the network drive with the pump drive load in the network capture method.
- FLOW CONTROL Feature. The current system to monitor how much water is consumed on the screen without using a flow meter with a value of about .(pricing available for consumption)
- Excessive pressure and low pressure protection feature. Difference on the set you want to set the settings and close the system is under pressure.
- PUMP START CURVE screen to watch. Pump catalog and value is set by entering the pipe diameter
- AUTHORIZED PASSWORD Feature. 3 PLC intervention to different regions with different operators password. The operator can enter into each section. Unauthorized parties can not intervene.
- STOP SPECIAL DAY. Public holiday, weekend, on holidays such as system shutdown and startup feature
- Pump operation to the building automation system with 0-1 OV output values are given as physical.
- AUTO SET option. The reduction of water usage, determine the automatic set value due to increased property.
- Circulation board option at a certain frequency in the sensor continues to work to stop the system or the failure.
- By backing up the pump number you want to backup feature allows co-operation by including aging.
- 6 pump system should be old gives 3 backup only if the pump is maximum 3 working.
- Pump active-passive option. Care was taken not turn on the pump system.
- Foreign languages. (Turkish-English-German-Russian)
- 100 past failure to follow the on-screen in real time.
- Automatic PLC + driver, including 11 kW direct manual pressure switch with on-off switch or star-delta starting 15kW and above should start (Soft starter is optional)
- Panels made of hair coated RAL 7035 powder-coated double IP55 protected.
- All outputs are fireproof-flame does not get connected with spring terminals.
- BMS dry contact outputs to be included is optional.
- The panels are CE certified.



## ELECTRIC FIRE PUMP CONTROLLED



### GENERAL SPECIFICATIONS

- 16 bit mikrocontroller designed.
- 48mhz running frequency.
- 4x20 character blue screen LCD.
- To see the date and time information on the screen.
- 2 days a week to make the test (Real Time Clock).
- Automatic test and selenoid valve exit.
- 3-phase voltage reading and LCD these.
- Voltage protection, possibility to enter the lower and upper voltage settings on the LCD.
- Pump Circuit, fault and ready To see the status screen.
- Pump currents screen to see.
- Ability to enter indep endently the current settings on the LCD.
- Recognition mode to calculate the pump current.
- Possibility to limit the engagement number of the pumps in 1 hour.
- Ability to determine the reset time at automatic resetting.
- Ability to reset nautomatically in error cases and to set the reset number.
- Automatic-manual selection.
- Manuel operation when pressing the test button at manuel.
- Protection agains dry operation vwithout floater and ssr control.
- Protection agains dry operation vwithout floater and ssr by moment control.
- Screen to see all the error .
- With a buzzer and relay contact to notify the general fault conditions.
- Pressure transmitter input and use.
- Pressure transmitter to monitor the measured value LCD.
- To adjust the set pressure value.
- Tracking the operation time of each pump.
- The actual runtime depends on the co-aging.
- All pumps belonging to the PTC (temperature) protection.
- Waste vwater to be used as panel (menü option).
- Waste vwater panel vwater leak terminal.
- Password protection against unauthorized interference.
- Fault recording equipment with date and time the last fault occurred 20 takes memory.

## DIESEL FIRE PUMP CONTROLLED



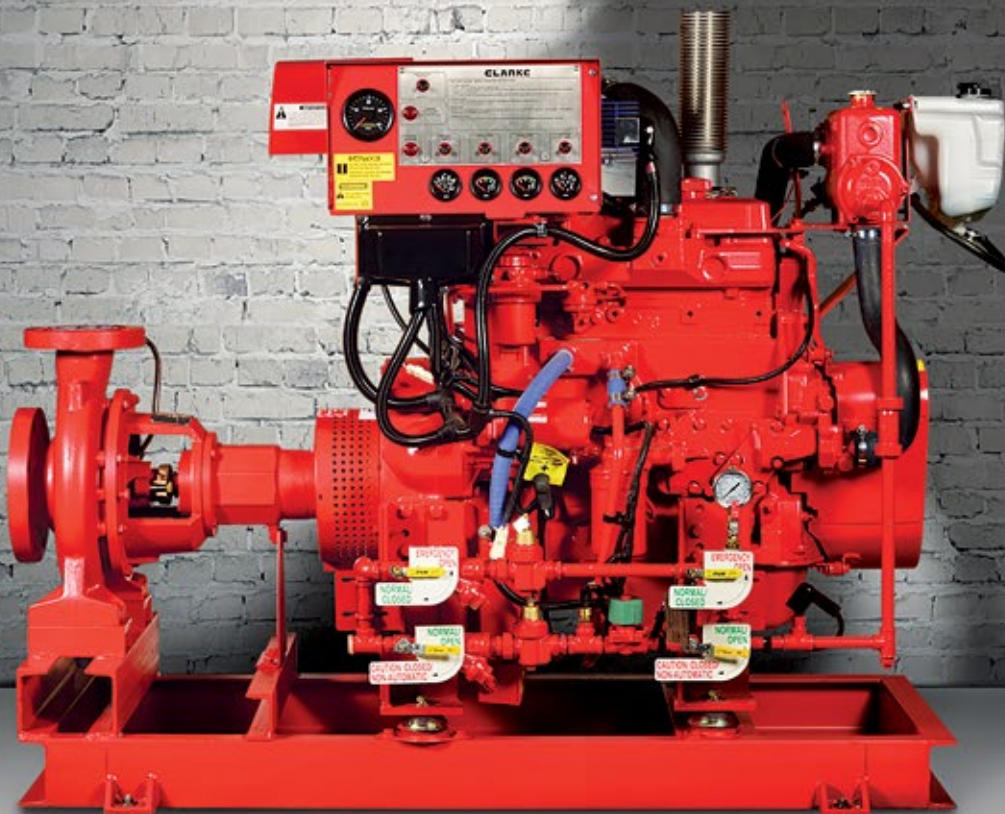
### GENERAL SPECIFICATIONS

- 16 bit microcontroller designed.
- 4X20 character blue screen LCD (Liquid Crystal Display).
- Suitable for single or dual battery system battery.
- To see the battery voltage and current measurement and display.
- Temperature measurement and temperature value on the screen to see the temperature sensor.
- Pressure sensor (transmitter) to use.
- Pressure sensors measure the pressure value on the screen to see in use.
- Show the oil pressure measurement and display with oil sensor.
- Show fuel metering and fuel float on the screen.
- By pressing the starter motor protection in cases where the starter fuel.
- Diesel speed measurement and display screen.
- Date (day-month-year) to see the screen.
- 2 days a week to make automated testing (real time clock?).
- Introduction of automated testing and cut-out to adjust the time.
- Automatic test discharge solenoid output.
- Heat exchanger (cooling) output.
- To adjust the length of stay has been vworking end of the heat exchanger.
- Normally open or normally closed pressure switch choice.
- Turkish and English menü..
- Starter time to adjust.
- Ability to limit the number of starters.
- Working late at the end of your health and time setting.
- Crank Cut setting (oil pressure or Alternator).
- Diesel çare be able to set time (max. 250 hours).
- Diesel maintenance time vwarnings as soon as the full screen.
- Private user passvword after diesel maintenance done? By resetting.
- Automatic - manual operation selection.
- Manual start.
- Manuel Stop.
- Test Button start.
- Report the charge of failure.
- Diesel work time to see the menü.
- Diesel running, oil missing, High temperature, informing the self-test Circuit with relay contacts state.
- Easy connection with the machine outlet.
- The device consists of 50 events in recent history information is stored with date and time.

“ Our factory has 40.000 sqm open, 20.000 sqm closed production area. We use modern production techniques and state of the art production equipments ”



# IT IS LEADERS' JOB TO COPE UP WITH FIRE



First producer of fire pumps with **NFPA**  
and **UL Listed/FM Approved**  
certifications in Turkey!



**Mas Grup**



[www.masgrup.com](http://www.masgrup.com)