



•Construction standards:  
NFE 44121  
DIN 24256  
ISO 2858  
ISO 5199

•Capacity: up to 400 m<sup>3</sup>/h or 1,700 US gpm

•Head: 165 m or 540 ft

•Applications:  
corrosive or non corrosive clear process liquids

•Materials of construction:  
cast iron, stainless steel, various alloy steels, bronze, Hastelloy, titanium, . . .

•Note:  
*available design features:*  
•impeller of open, semi-open or closed type  
•hydrodynamic shaft seal, mechanical seal or soft packing  
•magnetic drive  
•heating jacket  
•canned motor pump



•Extended standards:  
NFE 44121  
DIN 24256  
ISO 2858  
ISO 5199

•Capacity: up to 6,000 m<sup>3</sup>/h or 26,400 US gpm

•Head: 200 m or 655 ft

•Applications:  
•corrosive and/or clogging liquids  
•abrasive liquids whether neutral or corrosive, containing large size solids

•Materials of construction:  
cast iron, alloy steels, bronze, stainless steel, chromium cast iron, Ni-hard

•Note:  
*available design features:*  
•pump with bearing frame suitable for V-belt transmission  
•oil-lubricated bearing for direct drive  
•wear plate on suction side  
•closed impeller with front/back vanes, torque flow impeller, semi-open impeller  
•hydrodynamic shaft sealing, soft packing or mechanical seal



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•Capacity: up to 6,000 m<sup>3</sup>/h or 26,400 US gpm

•Head: 200 m or 655 ft

•Applications:  
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•abrasive liquids whether neutral or corrosive, containing large size solids

•Materials of construction:  
cast iron, alloy steels, bronze, stainless steel, chromium cast iron, Ni-hard

•Note:  
*available design features:*  
•pump with adjustable bearing frame for V-belt transmission  
•oil-lubricated bearing for direct drive  
•wear plate on discharge and/or suction side  
•closed impeller with front/back vanes, torque flow impeller, semi-open impeller  
•hydrodynamic shaft seal, soft packing or special mechanical seal for pumping slurries



•Process pump with torque flow impeller

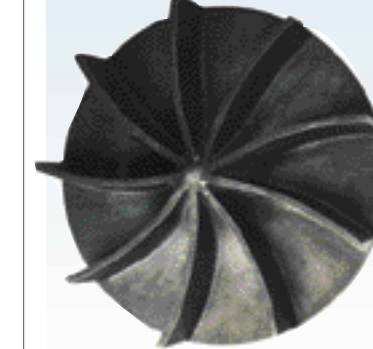
•Capacity: up to 1,300 m<sup>3</sup>/h or 5,700 US gpm

•Head: up to 70 m or 230 ft

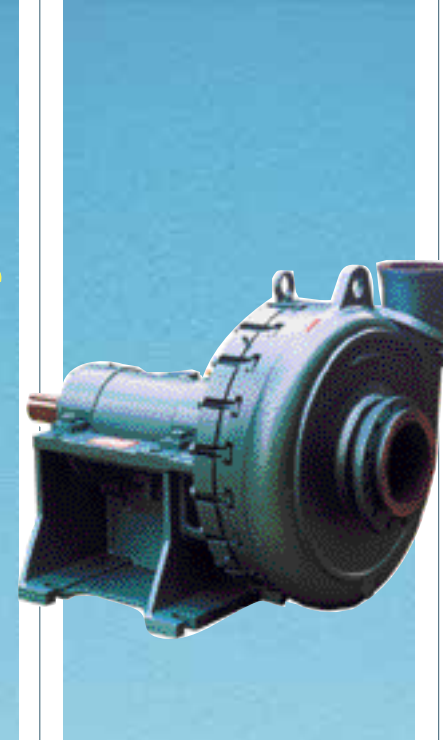
•Applications:  
abrasive liquids, whether neutral or corrosive, with or without large size solids

•Materials of construction:  
cast iron, chromium cast iron, Ni-hard, stainless steel, Duplex, . . .

•Note:  
*available design features:*  
•pump with adjustable bearing frame for V-belt transmission  
•oil or grease lubricated bearing for direct drive  
•wear plate on discharge and/or suction side  
•closed impeller with front/back vanes, torque flow impeller, semi-open impeller  
•hydrodynamic shaft seal, soft packing or special mechanical seal for pumping slurries



Pumps for liquids containing solids in suspension



•Capacity: up to 3,500 m<sup>3</sup>/h or 15,400 US gpm

•Head: 100 m or 330 ft

•Applications:  
very abrasive liquids with small to large size solids

•Materials of construction:  
cast iron, chromium cast iron, Ni-hard, stainless steel, Duplex, . . .

•Note:  
*available design features:*  
•pump with adjustable bearing frame for V-belt transmission  
•oil or grease lubricated bearing for direct drive  
•wear plate on discharge and/or suction side  
•closed impeller with front/back vanes, torque flow impeller, semi-open impeller  
•hydrodynamic shaft seal, soft packing or special mechanical seal for pumping slurries

Armoured pumps



•Construction standards:  
API 610 latest edition

•Capacity: up to 3,000 m<sup>3</sup>/h or 13,200 US gpm

•Head: 520 m or 1,700 ft

•Applications:  
oil refineries, petrochemical industry, pipelines, offshore, . . .

•Materials of construction:  
cast steel, alloy steel, stainless steel, Hastelloy, Zirconium, special alloys

•Note:  
*available design features:*  
•open or semi-open impeller  
•heating jacket

API 610 Pumps



•Capacity: up to 400 m<sup>3</sup>/h or 1,700 US gpm

•Head: 960 m or 3,150 ft

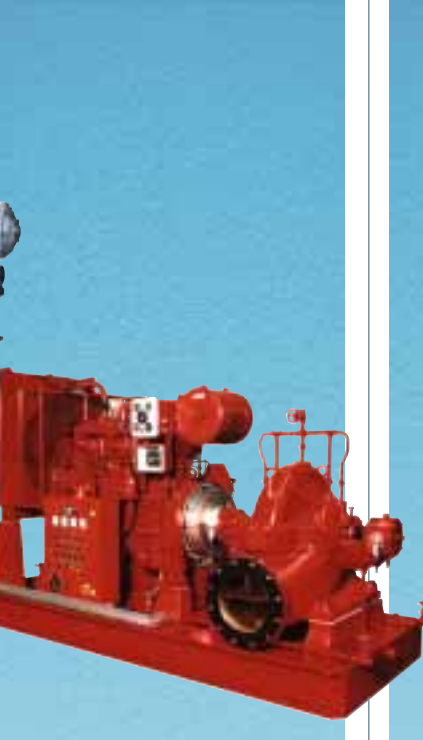
•Design pressure: 100 bar

•Applications:  
boiler feeding, mine dewatering, booster

•Materials of construction:  
cast iron, steel or chromium steel, stainless steel, Duplex

•Note:  
•dynamic axial thrust balancing system  
•shaft sealing by soft packing or mechanical seals

Multi-stage pumps



•Construction standards:  
API 610 or NFPA 20

•Capacity: up to 7,600 m<sup>3</sup>/h or 33,500 US gpm

•Head: 250 m or 820 ft

•Applications:  
Transfer pumps, general services  
•circulation to cooling tower  
•plant cooling water supply  
•fire-fighting service

•Materials of construction:  
cast iron, steel and cast iron, chromium steel, stainless steel

•Note:  
•grease or oil lubricated bearing  
•soft packing or mechanical seal

Axial split casing pumps



•Capacity: up to 3,300 m<sup>3</sup>/h or 14,500 US gpm

•Head: 150 m or 500 ft

•Applications:  
sump pump up to 1800 mm length

•Materials of construction:  
cast iron, stainless steel, Duplex, chromium cast iron, special alloys

•Note:  
special design for high temperatures up to 450°C (molten salts, concentrated caustic soda, ammonium nitrate etc.)

Vertical cantilever shaft pumps without column bearings and without shaft sealing device



•Capacity: up to 25,000 m<sup>3</sup>/h or 110,000 US gpm

•Head: 250 m or 820 ft

•Applications:  
•all industries  
•vertical mounting with concentric discharge  
•handling of large flowrates at medium or high heads

•Materials of construction:  
•cast iron, chromium cast iron, steel, bronze, stainless steel, titanium, 254SMo, special alloys  
•available in cast or fabricated version

•Note:  
manufactured in two designs:  
•wet or dry pit installation (length under grade level max. 25 m)  
•can-mounted vertical pumps ("barrel" type) for liquefied gases or for low NPSH available

Vertical centrifugal and mixed flow pumps



•Capacity: up to 1,800 m<sup>3</sup>/h or 7,920 US gpm

•Differential head: up to 35 m or 115 ft in one stage

•Applications:  
•production of concentrated acid  
•circulation to drying and absorption towers

•Materials of construction:  
acid-proof cast iron, chromium cast iron, special stainless steel

•Design:  
•vertical submersible with concentric discharge, immersion depth up to 4 metres  
•mounting outside tank

Vertical sulphuric acid pumps



•In the chemical industry:  
•molten sulphur  
•water or clear corrosive liquid (submersible pumps of IM range)  
•long sump pumps (up to 25 m) (VL)  
•molten salt at high temperatures (VNYR –VEYR)

•Materials of construction:  
alloy steels, Hastelloy, nickel, chromium cast iron, titanium, zirconium, 254SMo

•Design:  
•according to application / installation requirements  
•steam heating of pump casing and discharge column available upon request

Special pumps



•Capacity: up to 25,000 m<sup>3</sup>/h or 110,000 US gpm

•Head: 15 m or 50 ft

•Applications:  
handling of very large flow-rates at low heads or recycling (concentration, crystallisation, evaporation)

•Materials of construction:  
cast iron, ductile iron, steel, stainless steel, Hastelloy, nickel, nickel and titanium alloys

•Note:  
*available design features:*  
•cast propeller with fixed blades  
•horizontal or vertical mounting  
•suction axial or top, radial perpendicular to shaft  
•HP version for petrochemical applications up to 75 bar g (PP/PE reactors etc.)

Axial flow pumps



•Motor: EEx de IIC T4

•Casing construction standards:  
ISO 2858, API 610, . . .

•Capacity: up to 1,000 m<sup>3</sup>/h or 4,400 US gpm

•Head: up to 500 m or 1,640 ft

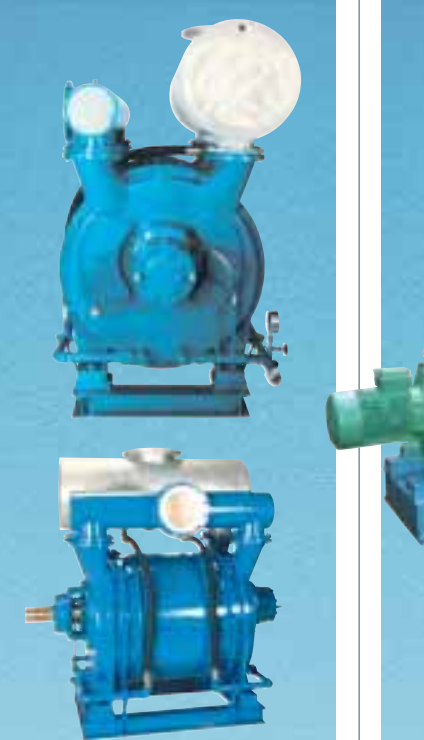
•Fluid temperature:  
from -100 °C to + 400 °C

•Materials of construction:  
various cast iron and steel grades, stainless steel, Hastelloy, . . .

•Applications  
any hazardous or polluting media; corrosive, explosive, harmful, radioactive liquids; extreme temperatures; liquefied gases, crystallising liquids, liquids with solids content

•Design:  
motor cooled by the pumped medium or by an auxiliary fluid, overpressurised motor, motor cooled by exchanger, motor with heating jacket; self-priming pumps; in-line, multistage, axial flow, canmounted ("barrel" type) pumps; horizontal or vertical mounting

Canned motor pumps



•Capacity: up to 11,000 m<sup>3</sup>/h or 48,500 US gpm

•Absolute suction pressure: up to 60 mmHg

•Applications  
evaporation under vacuum, filtration, crystallisation, . . .

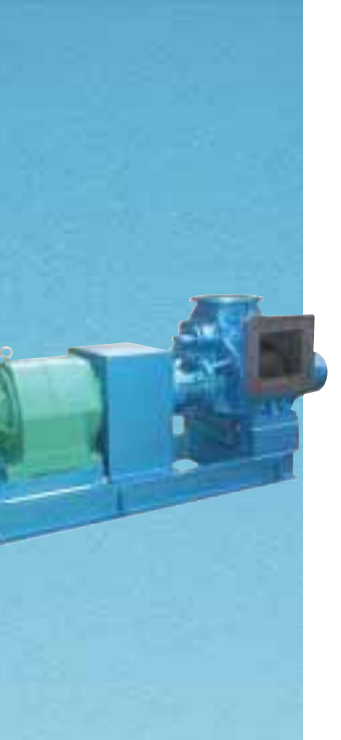
•Materials of construction:  
cast iron, cast iron and bronze, stainless steel, Duplex, . . .

•Note:  
connection to a set of ejectors possible for vacuum values exceeding 700 mmHg

•Applications  
any hazardous or polluting media; corrosive, explosive, harmful, radioactive liquids; extreme temperatures; liquefied gases, crystallising liquids, liquids with solids content

•Design:  
motor cooled by the pumped medium or by an auxiliary fluid, overpressurised motor, motor cooled by exchanger, motor with heating jacket; self-priming pumps; in-line, multistage, axial flow, canmounted ("barrel" type) pumps; horizontal or vertical mounting

Liquid ring vacuum pumps



•Gears

•Lobes

•Elliptic piston

•Capacity: up to 80 m<sup>3</sup>/h or 3,500 US gpm

•Pressure: 10 bar

•Applications:  
viscous liquids

•Materials of construction:  
cast iron, bronze, stainless steel, . . .

•Note:  
*available design features:*  
•double jacket  
•by-pass  
•shaft sealing by mechanical seal

Positive displacement pumps

**Other available constructions:**  
**To meet your requirements, we are also able to supply:**  
•Low Pressure In-Line pumps to BS 4082 Class L  
•NP10 water pumps  
•Two-channel impeller pumps  
•Shaft seals tailored to every medium:  
•soft packing  
•mechanical seals  
•hydrodynamic sealing by relief impellers (expellers)  
•Ceramic pumps  
•Diesel-driven pumpsets: a number of references, e.g. for pipe filling and testing units (up to 900 bar)  
•Lined pumps  
•Submersible pumps  
•Magnetic drive pumps  
•Self-priming pumps

Standardised chemical pumps

Pumps for turbid liquids

Slurry pumps

Pumps for liquids containing solids in suspension

Armoured pumps

API 610 Pumps

Multi-stage pumps

Axial split casing pumps

Vertical cantilever shaft pumps without column bearings and without shaft sealing device

Vertical centrifugal and mixed flow pumps

Vertical sulphuric acid pumps

Special pumps

Axial flow pumps

Canned motor pumps

Liquid ring vacuum pumps

Positive displacement pumps

# A market leader

## next door ...



Two family concerns, Ensival, founded in 1905 and Moret, in 1868, have contributed to the European industrial development throughout their histories by consistently producing pumping equipment at the forefront of technological progress. Both have a presence world-wide in mining, in the oil industry, in the chemical and petrochemical sectors, in the paper industry and in the agro-food industry.

In order to take up the challenges of the 21st century, these two companies have now joined forces to bring into being a new industrial group with strategically combined capabilities, offering yet greater expertise, enhanced service, an extensive range of products and unique quality insurance. Preserving at the same time its human dimension, the *Ensival-Moret group* stays flexible, close to users and capable of quick responsiveness to their specific needs.

With a global service network (ten service centers, sixty active agents) and 60 % of its production exported to a hundred countries, the group emerges straight away as a world market leader in the design and manufacture of pumps for the toughest services, such as phosphoric and sulphuric acids, slurries or critical applications in the sugar and paper industries. The two manufacturers jointly propose a comprehensive range of centrifugal and mixed flow pumps (capacities to 25,000 m<sup>3</sup>/h, heads to 2,000 mic, operating temperatures from -160 to +900 °C, installed powers to 4,000 kW). This manufacturing programme also includes a series of self-priming pumps, liquid ring vacuum pumps, high capacity submersible pumps and canned motor pumps.



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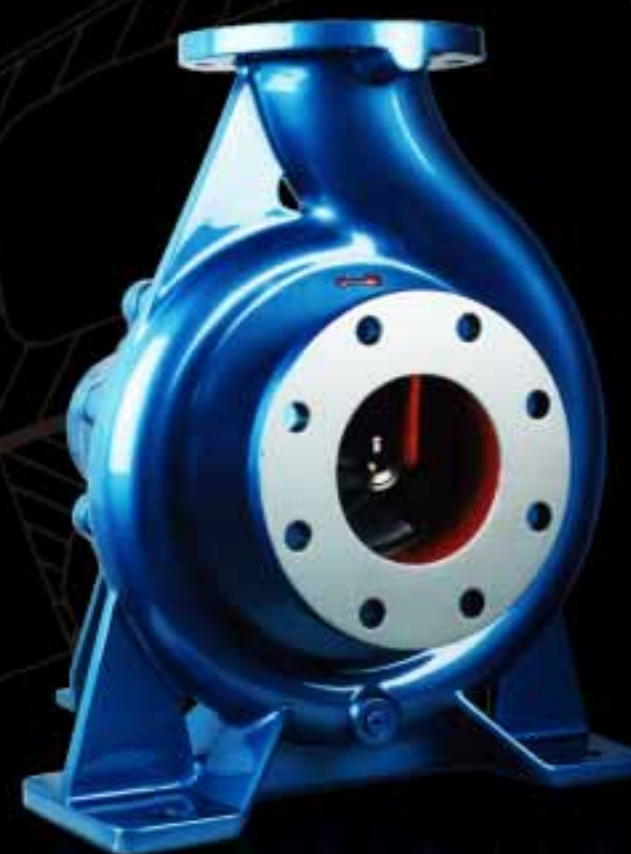


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# MANUFACTURING RANGE

<http://www.ensival-moret.com>

	WASTE WATER		MINES		MISCELLANEOUS	
	Lifting Treatment	Marine Desalination	Transfer Spreading	Ore treatment	Cement works	Iron and steel works Automobile industry
Standardised chemical pumps	Waste water without solids Acids, bases Demineralsed water		Acid solutions for ore treatment		Surface treatment liquids Demineralsed water Diathermic fluids	
API 610 pumps	Refinery waste treatment (offsites)					
Slurry pumps	Decanted and screened waste water Biological sludges HP spreading Waste water laden with clogging or fibrous matters Waste water containing plastic scraps and large size, abrasive or corrosive matters		Run-off water treatment Waste water laden with clogging or fibrous matters Barbotine Liquids containing large size solids Cement milk		Sea-water Converter cooling Paint cabin Coke slashing Paints Liquids of medium viscosity Sludge with high solids content	
Armoured pumps	Waste water containing sand or highly abrasive matters		Ore washing Sand treatment Sludge, cement milk		Sludge Thick liquors Water laden with scales	
Multi-stage pumps	Boiler-feed Clear liquid HP circuit		Spraying Spreading		Mine dewatering Boiler-feed HP circuit Descaling pumps	
Positive displacement pumps	Oil, grease, paint additives, tar, pitch, heavy fuel		High viscosity products		Oils, greases and viscous products	
Cantilever shaft pumps	Acids, waste water Acid or basic effluents, clear or containing solids		Neutralisation sump, water + traces of solids		Sump pumps, recovery of ore residues	
Vertical centrifugal and mixed flow pumps	Waste water treatment Pit dewatering Sea and river water		Clear waste water treatment and pit dewatering Basin water recovery		Waste water treatment Waste water lifting	
Horizontal and vertical axial flow pumps	Fertilisers. Synthetic fibers Basic and acid solutions/ mineral salts Lifting and circulation on evaporators		Activated sludge Rain water Tank drainage		Dewatering Groundwater drainage	
Liquid ring vacuum pumps	Vacuum evaporators Vacuum filtration		Vacuum filtration		Vacuum filtration	
Axial split casing pumps	Water supply at high flows, cooling, desalination of seawater Fire-fighting		Cooling Fire-fighting circulating feed-water		Mine dewatering at medium depths Water supply	
Canned motor pumps						
Vertical sulphuric acid pumps	Sulphuric acid production Drying/absorption towers - Acid transfer					
Special pumps			High capacity submersible pumps Unchokeable two-channel impeller pumps		High capacity submersible pumps	

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