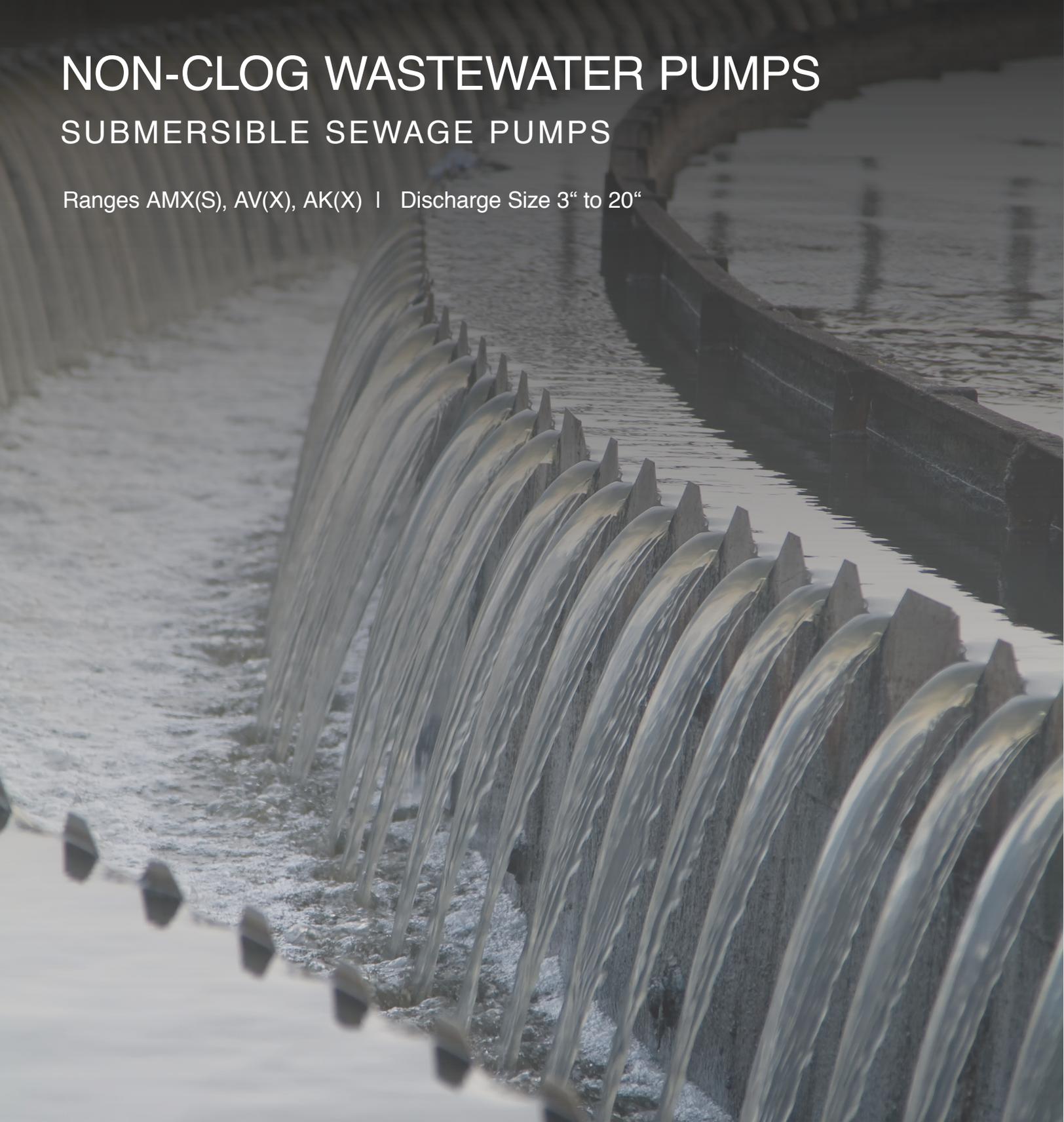


# NON-CLOG WASTEWATER PUMPS

## SUBMERSIBLE SEWAGE PUMPS

Ranges AMX(S), AV(X), AK(X) | Discharge Size 3" to 20"





## HIGHER PERFORMANCE TO MEET EVERY CHALLENGE

### **COMMITMENT TO QUALITY**

HOMA submersible wastewater pumps operate worldwide in numerous domestic, municipal, and industrial applications.

Decades of experience in the design and manufacturing of submersible pumps, plus uncompromising attention to quality in every detail, ensure the utmost reliability and long service life of all HOMA products.

### **FLEXIBLE SYSTEM COMPONENTS FOR PROBLEM-FREE INSTALLATIONS**

HOMA combines efficiency, reliability, and robust design with a flexibility to fit every project. With a wide variety of pumps for various applications and installations, as well as modifications available upon request, HOMA can help provide a solution for your pumping problem.

For operation in hazardous locations, HOMA pumps are also available in explosion proof variants.

# PROVEN TECHNOLOGY FOR YOUR APPLICATION

## MULTIPLE CHALLENGES INDIVIDUAL SOLUTIONS

HOMA submersible wastewater pumps are designed for pumping sewage, sludge, effluent, or surface water, including liquids containing high solids or fibrous content.

They are installed in domestic, municipal, industrial, and agricultural pumping applications. For chemically aggressive liquids, specific components like impellers, volutes or complete units are also available in corrosion resistant materials like 316 or duplex stainless steels, and bronze. HOMA submersible pumps can be supplied for a wide range of tough applications:

- Municipal Wastewater
- Industrial Wastewater
- Domestic Wastewater
- Treatment Plants
- Large Pump Stations
- Industrial Applications
- Oil and Gas
- Power Plants
- Mining
- Chemical Processing
- Shipbuilding / Offshore

## MORE POWER FOR EVERY APPLICATION

Whether for water supply in power plants, for mining leachate applications, for aggressive media dewatering, for industrial wastewater, or for ballast water in the shipbuilding sector, the “A” series provides proven features, such as:

- Various impeller designs, depending on the pumped liquid
- Motors for continuous operation, with or without cooling jacket
- High-quality materials
- Robust and reliable construction



For chemically aggressive liquids: Stainless steel submersible pumps.



Pumps are tested in our modernized test center in order to guarantee HOMA's renowned quality standards.



## FOR GREATER RELIABILITY AND LONGEVITY

### **MORE ADVANTAGES IN ALL OPERATING MODES**

The motors are designed for continuous operation duty, or intermittent duty with up to 15 starts per hour. In addition to a fully submerged motor housing in wet well installation, a jacket cooled motor-variant is available for operation with a non-fully submerged motor or for dry well installation. Pumps with enclosed single-channel impellers are designed for intermittent operation, normally in automatic level-controlled wet or dry well sump installations.

They are also suitable for limited continuous operation. Enclosed multichannel impeller pumps are designed for unlimited continuous operation, such as industrial water supply.

### **HIGH QUALITY IN DESIGN AND MATERIALS – LESS MAINTENANCE AND FAILURES**

Quality can be measured – HOMA submersible wastewater pumps are characterized by the robust design and high quality materials of all components.

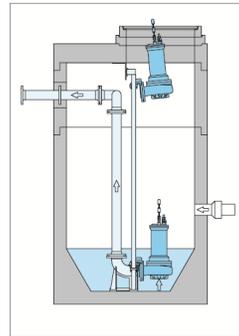


# THE RIGHT INSTALLATION FOR EVERY PUMP STATION

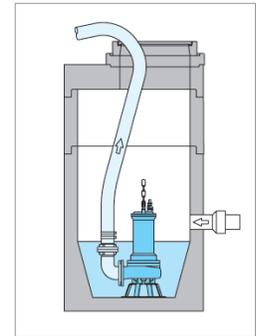
## MOTOR SELECTION

### PERMANENT WET WELL INSTALLATION

Submerged autocoupling guide rail system for automatic connection and disconnection of the pump from the pipework without needing to enter the sump. All maintenance or repair work can be done outside the sump. When lowered into operating position, the weight of the pump ensures leak-proof discharge connection.



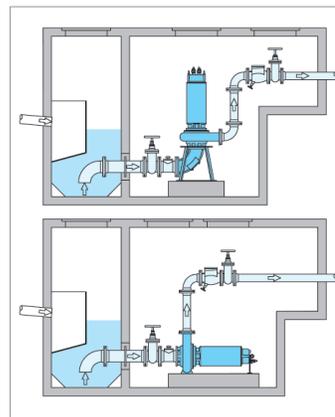
Permanent wet well installation



Transportable wet well installation

### TRANSPORTABLE WET WELL INSTALLATION

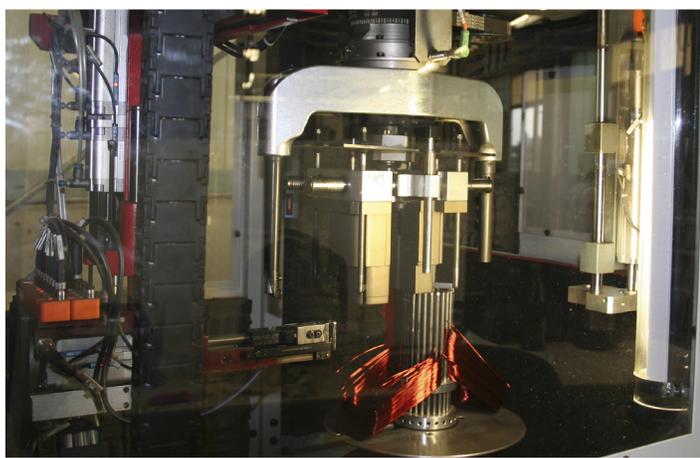
Submerged pump mounted on a ring base stand or temporary, service, or emergency operation. Discharge connection with pipe or hose.



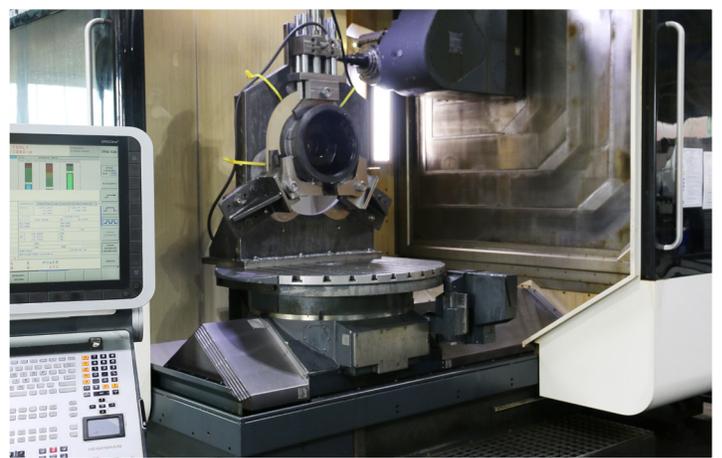
Permanent dry well installation

### PERMANENT DRY WELL INSTALLATION, VERTICAL OR HORIZONTAL

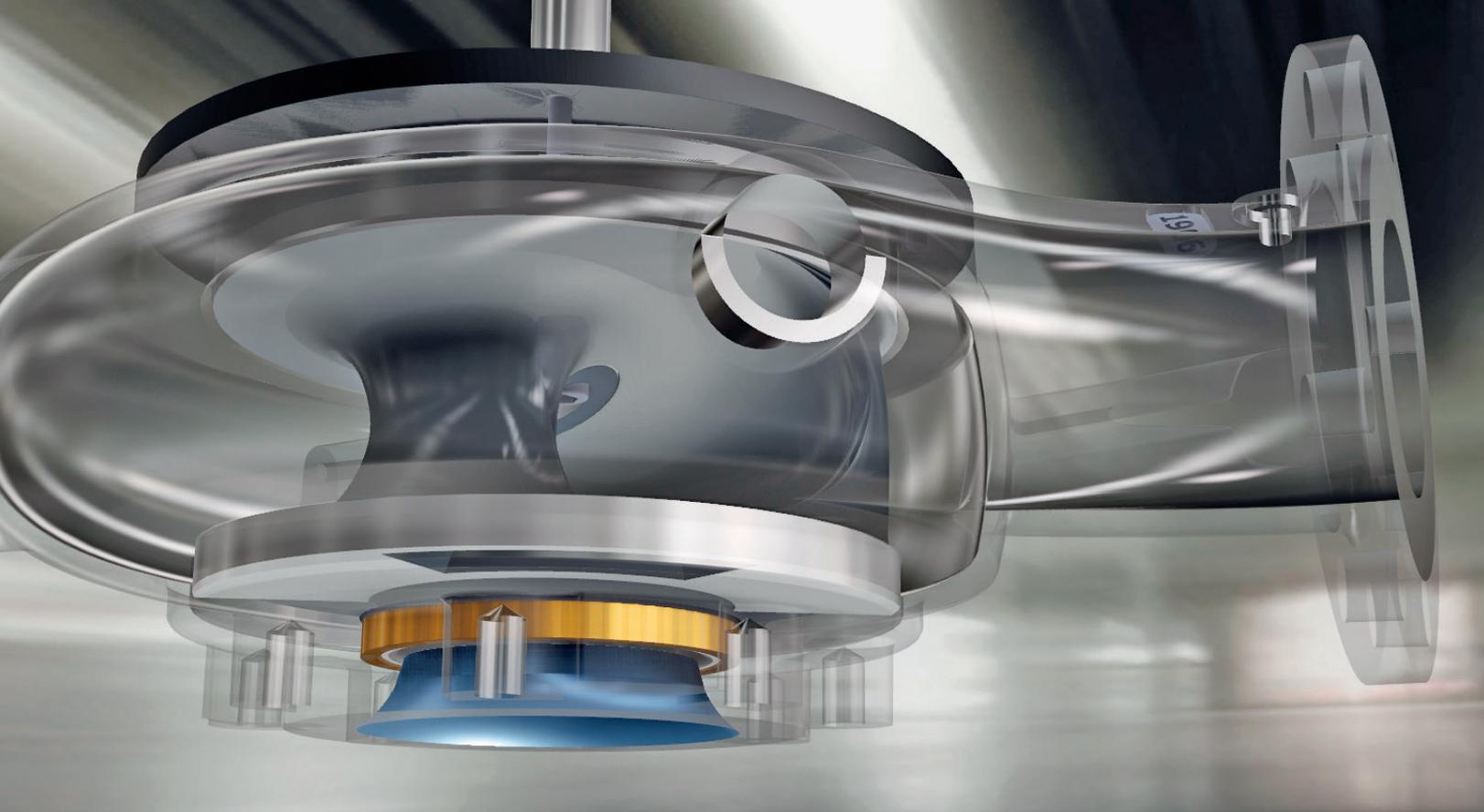
Flood-proof installation for pump stations with separate collection sump. Fixed flanged connection of suction and discharge pipe.



In-house motor production allows various voltages and frequencies.



By machining all needed components in our own workshop on modern precision equipment we are able to assure efficiency and flexibility.



## EFFTEC MOTORS AND AMS HYDRAULICS

### AMS: IMMUNITY TO CLOGGING

The makeup of wastewater has changed greatly in recent years, with a substantial increase in solids content due to water conserving fixtures and more robust throwaway cleaning products. In order to ensure reliable operation in these environments, our new AMS hydraulics rely on a closed, single-vane impeller with large solids passages.

Our impellers and pump housings have been redesigned and optimized with the latest flow-simulation software and validated with extensive field testing. The result is improved hydraulic efficiencies of up to 81 percent, with a low risk of blockage resulting in sustained performance. In combination with HOMA's proven submersible motors, the new AMS hydraulics provide the next level of clog-free operation.

### EFFTEC: INNOVATIVE TECHNOLOGY

In order to achieve the highest possible overall efficiency while maintaining low energy consumption we introduced the new EffTec series of motors. In combination with the new AMS hydraulics, the new pump generation is setting new standards in economic efficiency and reliability.

The newly developed PermaCool® system is forward thinking. This permanent motor cooling now provides the option of fitting the units for submerged or drywell installation. The new design (patent pending) ensures that the cooling jacket cannot be clogged with solids.

Together with the low running temperature of the EffTec motors, the PermaCool system puts a low thermal load on all components, thus ensuring their long lifetime.

# GREATER RELIABILITY THROUGH INTELLIGENT ACCESSORIES

## VICON: FOR A LONG PUMP LIFE

Monitoring the condition of equipment is a key element where quality, reliability, energy savings, and targeted maintenance play an important role. Submersible pumps, which are submerged in the pumped media are a special case. Unplanned repairs can be costly, often resulting in an unacceptable timeline. HOMA VICON provides permanent and reliable monitoring, as well as early detection of blockages and any damage that may occur.

HOMA VICON can detect an obstruction or damage to the hydraulics, poor operating points, bearing damage, or piping problems. It displays these problems to the operator, and can also stop the pump in case of an emergency. By optimizing the system and providing early detection of unfavorable operating conditions, HOMA VICON contributes to energy savings and life cycle cost reduction.

## FLUSH VALVES: A CLEAN SOLUTION

Pump stations must be cleaned regularly due to sedimentation or the formation of a scum layer. The results are unpleasant odors, clogged level controllers and a reduction in operating performance, as well as high costs due to downtime and necessary cleaning or maintenance work. HOMA provides the solution for these problems. The new HOMA flushing valves FV 25 and FV 50 reliably prevent the accumulation of solids and grease in pits.

When the pumping process starts, a portion of the pumped liquid is routed back into the pit through the opened valve. This creates a stream that disperses any solids in the media and allows them to be pumped out without difficulty. The valve nozzle can be directed either at the bottom of the pit to prevent sedimentation or upwards to prevent the formation of a scum layer, especially on liquids with high grease content.



Reliable Monitoring - the integrated pump vibration diagnostic system  
HOMA VICON



Connection for automatic flush valve FV (optional)



## RANGES AND PUMP TYPES

### MOTOR SELECTION

#### **SPEED:**

For the standard hydraulic range, the motors are designed with the following speeds.

- 3450 rpm = 2-pole
- 1750 rpm = 4-pole
- 1160 rpm = 6-pole
- 850 rpm = 8-pole
- 710 rpm = 10-pole

Motors are available standard in 208 or 230V single phase, and 208, 230, or 460V three phase, with additional operating voltages available upon request.

#### **SOFT START DEVICES AND VFDS:**

All motors are rated for NEMA MG-1 Part 30 as standard, or available with NEMA MG-1 Part 31 VFD specific windings.

#### **EXPLOSION PROTECTION:**

In addition to the standard version, motors are also available explosion proof according to FM Class 1, Div. 1, Groups C & D Hazardous Area Classifications.

#### **DRY WELL VARIANT:**

Besides the version for submerged operation, all pumps are also available with cooling jacket for dry well or non-submerged operation.

#### **MOTOR MONITORING:**

All motors are supplied with temperature sensors in the winding, bi-metallic sensors (standard) or PTC sensors (on request).

Additional monitoring devices (bearing temperature, motor housing moisture) on request.

## PUMP TYPE CODE

Impeller	Discharge	Spherical clearance	Speed	Motor power	Motor frame size	Jacket cooled	Monitoring devices	Explosion proof
				Motor				
<b>AMX(S)</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>5.5</b>	<b>T</b>	<b>(U)</b>	<b>(C) + (S)</b>	<b>FM</b>
AMX(S) = enclosed single channel	3 = 3" (DN 80) 4 = 4" (DN 100)	3 = 3" (80 mm) 4 = 4" (100 mm)	2-pole = 3450 rpm 4-pole = 1750 rpm	P2 (hp)	C, D, T, P, F, G, H	Motor with cooling jacket  U = open circuit pumped liquid cooling	C = Oil chamber seal condition monitoring probe  S = moisture sensor in stator chamber	
AV(X) = Vortex	6 = 6" (DN150)		6-pole = 1160 rpm					
AK(X) = enclosed multi channel								

## RANGES AND HYDRAULICS

### HYDRAULIC SELECTION

Discharge and suction flange

- 3 inch - 20 inch ANSI/DIN discharge flange

Adapters available for most manufacturers to retrofit your new HOMA pump into an existing station.

### IMPELLER:

A range of different impeller designs are available to provide optimum performance and reliability with various liquids and operating conditions.

### IMPELLER SPHERICAL CLEARANCE:

The pumps are available with impeller spherical clearances of 3, 4, or 6 inches according to pump range.



### AMX(S)

#### Enclosed single channel impeller

For liquids containing impurities and sludge with solid particles or long fibers.

- 3-45hp - 3 or 4 inch solids

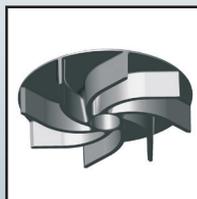


### AK(X)

#### Enclosed Multi Channel Impeller

For liquids containing impurities and sludge with solid particles.

- 10-500hp - 3, 4, or 6 inch solids



### AV(X)

#### Vortex impeller

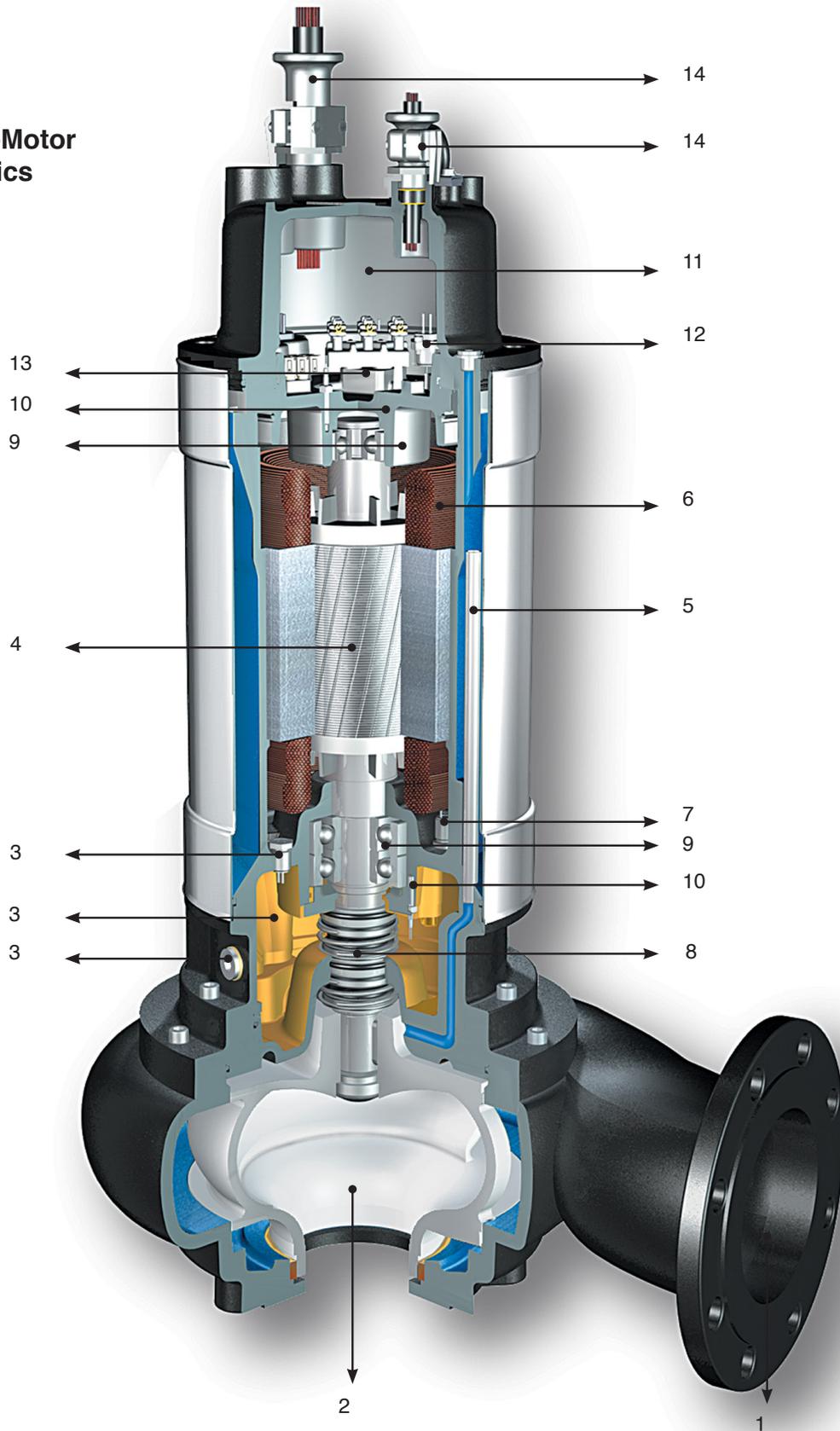
For liquids containing a high level of impurities or fibrous matter.

- 3-100hp - 3 or 4 inch solids

# HOMA A-SERIES PUMPS - PROVEN QUALITY

Quality can be measured – HOMA submersible wastewater pumps are characterized by their robust design, and high quality materials of all components.

**Model shown: PU-Motor  
with AMX Hydraulics**



## HIGH QUALITY MATERIALS

### 1. DISCHARGE

- Class 125 lb ANSI/DIN Flange in 3 in - 20 in

### 2. NON-CLOGGING IMPELLERS

- Enclosed single channel impeller with replaceable wear ring
- Enclosed multi channel impeller with replaceable wear ring
- Vortex impeller

### 3. OIL CHAMBER

Separate large oil chamber, lubricating and cooling the mechanical seals. Electronic seal condition monitoring is standard.

### 4. MOTOR

Single or three phase electric motor with 2, 4 or 6-pole winding. Class H Insulation, IP 68 Protection.

#### Explosion protection (FM):

In addition to the standard version, motors are also available explosion proof according to FM Class 1, Div. 1, Groups C & D Hazardous Area Classifications.

### 5. MOTOR COOLING

Motors for submerged operation are cooled by the surrounding liquid. For dry well or non-submerged operation, motors are available with a cooling jacket, providing a cooling circulation of water from the pump volute (model U).

Alternatively, a closed circuit liquid cooling system is available without directly using the pumped liquid for the cooling circuit, providing the heat exchange through a contact surface between heat exchange chamber and pump chamber.

## MATERIALS

Motor housing	ASTM A48 Class 40B cast iron
Pump housing	ASTM A48 Class 40B cast iron
Impeller	ASTM A48 Class 40B cast iron
Wear rings	Bronze <sup>1)</sup>
Motor shaft	Stainless steel
Mechanical seals	Silicon-carbide / Silicon-carbide
Motor cooling jacket (model U and L)	Stainless steel
Seals and O-rings	Nitrile (Buna N)
Cable	H07RN-F (Plus) <sup>4)</sup>

1) also available in stainless steel  
2) also available in bronze

3) also available in Viton  
4) shielded cable on request

### 6. THERMAL SENSOR (BI-METAL)

Embedded in the motor winding. PTC sensors available on request.

### 7. MOISTURE MONITORING IN STATOR CHAMBER

Available on request.

### 8. SHAFT SEALS

Two independently working silicon-carbide mechanical seals in tandem arrangement.

### 9. SHAFT BEARING

Maintenance-free, pre-lubricated ball bearings with a B10 life of 100,000 hours.

### 10. TEMPERATURE MONITORING OF THE SHAFT BEARINGS

Available on request.

### 11. CABLE JUNCTION CHAMBER

Separate junction chamber standard from 13 hp and larger.

### 12. ELECTRONIC MOISTURE SENSOR IN JUNCTION CHAMBER

Available on request.

### 13. HOMA VICON - PUMP VIBRATION DIAGNOSTIC SYSTEMS

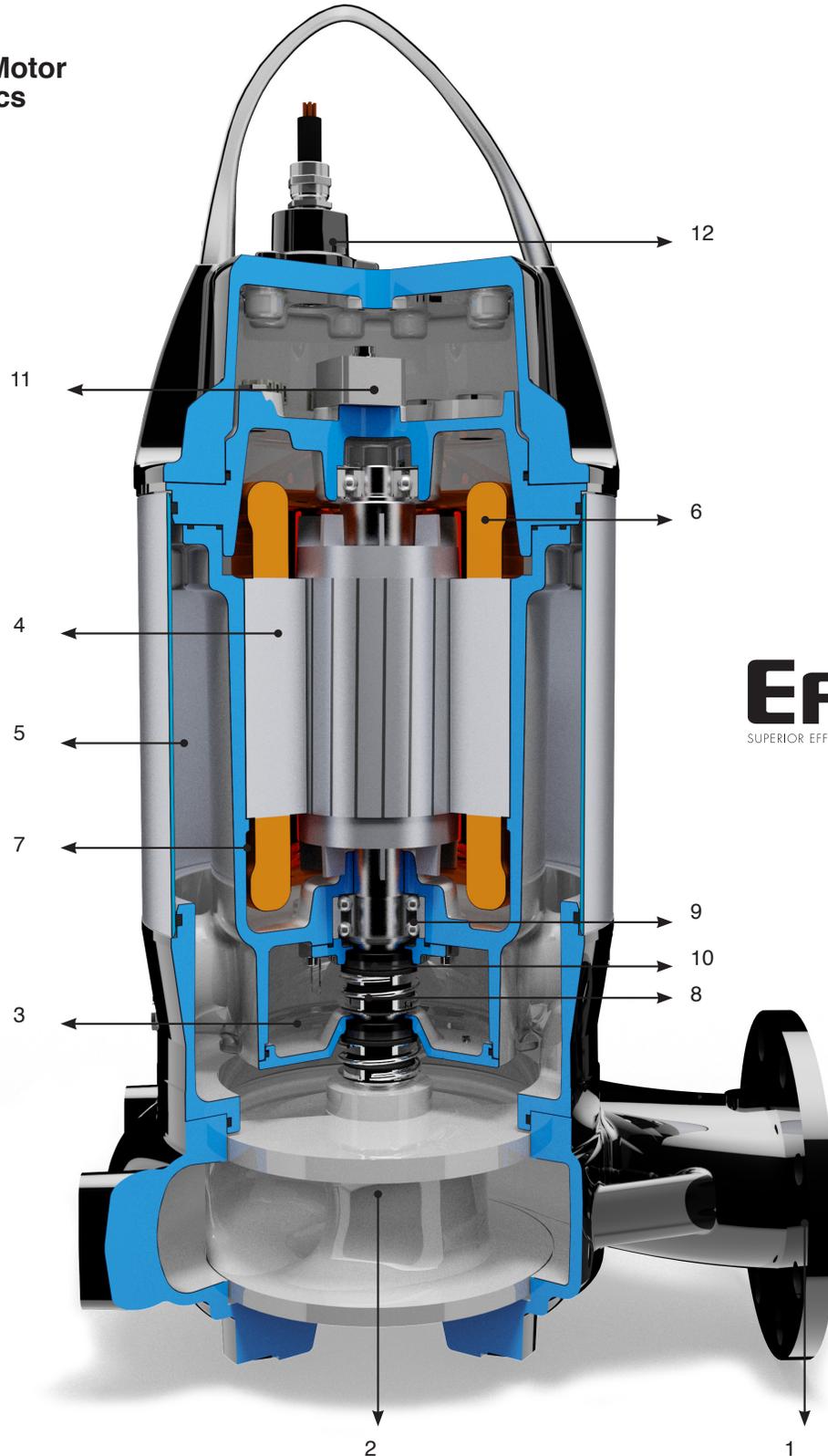
HOMA VICON can detect an obstruction or damage to the hydraulics, poor operating points, bearing damage, or piping problems. It displays these problems to the operator, and can also stop the pump in case of an emergency. Available on request.

### 14. PRESSURE SEALED, STRAIN RELIEF CABLE ENTRY

## NEW EFFTEC-MOTORS: INNOVATIVE TECHNOLOGY - GREAT EFFICIENCY

All motors in the EffTec series are equipped with the newly developed PermaCool® system. This permanent motor cooling now gives you the option of fitting the units for submerged or drywell installation. The new design - patent pending - ensures that the cooling jacket cannot be clogged with solids. In combination with our new AMS hydraulics, the new EffTec series of pumps sets a trend for economic efficiency and reliability.

### Model shown: ET-Motor with AMS-Hydraulics



**EFFTEC**<sup>®</sup>  
SUPERIOR EFFICIENCY - SUPERIOR PERFORMANCE

# PERMANENT MOTOR COOLING: PERMACOOL®

## 1. DISCHARGE

- Class 125 lb ANSI/DIN Flange in 3 in, 4 in, or 6 in

## 2. NON-CLOGGING IMPELLERS

- Enclosed single channel impeller with large spherical clearance. Replaceable wear ring.
- Available for installation on all A Series non-clog hydraulics from 3 to 13 horsepower.

## 3. OIL CHAMBER

Oil-filled seal chamber with port for visual inspection. Electronic seal condition monitoring is standard.

## 4. MOTOR

Single or three phase electric motor with 2, 4-or 6-pole winding. Class H Insulation, IP 68 Protection.

### Explosion protection (FM):

In addition to the standard version, all motors are also available explosion proof according to FM Class 1, Div. 1, Groups C & D Hazardous Area Classifications.

## 5. MOTOR COOLING PERMACOOL

This permanent motor cooling now gives you the option of fitting the units for submerged or drywell installation. Together with the low motor temperature of the EffTec motors, the PermaCool system puts a low thermal load on all components, thus ensuring their long useful lifetime.

## MATERIALS

Motor housing	ASTM A48 Class 40B cast iron
Pump housing	ASTM A48 Class 40B cast iron
Impeller	ASTM A48 Class 40B Cast Iron 1) 2)
Wear rings	Bronze 1)
Motor shaft	Stainless steel
Mechanical seals	Silicon Carbide/Silicon Carbide
Cooling jacket	Stainless steel
Seals and O-rings	Nitrile (Buna N)
Cable	H07RN-F (Plus) 4)

1) also available in stainless steel  
2) also available in bronze

3) also available in Viton  
4) shielded cable on request

## 6. THERMAL SENSOR (BI-METAL)

Embedded in the motor winding. PTC sensors available on request.

## 7. MOISTURE MONITORING IN STATOR CHAMBER

Available on request.

## 8. SHAFT SEALS

Two independently working silicon-carbide mechanical seals in tandem-arrangement.

## 9. SHAFT BEARING

Maintenance-free, prelubricated ball bearings with a B10 life of 100,000 hours.

## 10. TEMPERATURE MONITORING OF THE SHAFT BEARINGS

Available on request.

## 11. HOMA VICON - PUMP VIBRATION DIAGNOSTIC SYSTEMS

HOMA VICON can detect an obstruction or damage to the hydraulics, poor operating points, bearing damage, or conduit problems. It displays these problems to the operator, and can also stop the pump in case of an emergency.

Available on request.

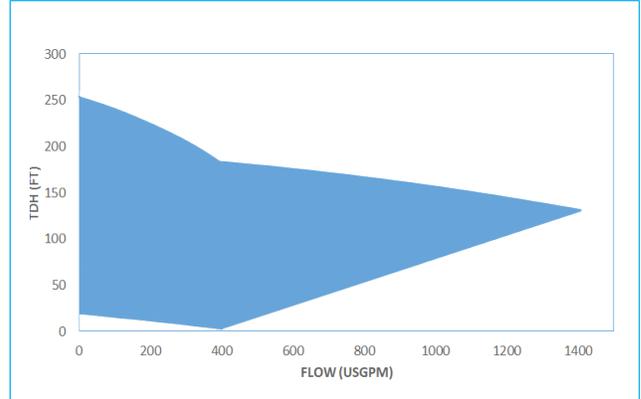
## 12. PRESSURE SEALED, STRAIN RELIEF



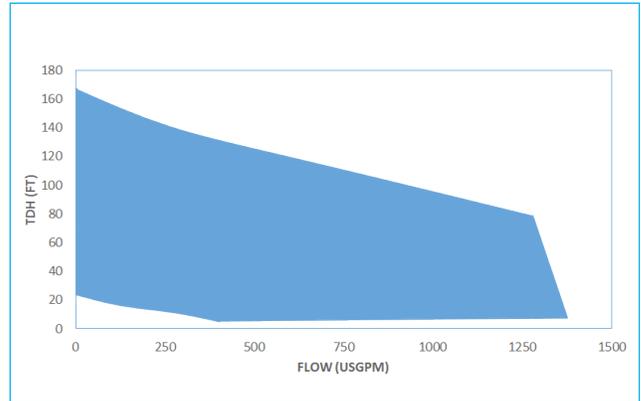
The new innovative PermaCool motor cooling

# HYDRAULIC RANGES

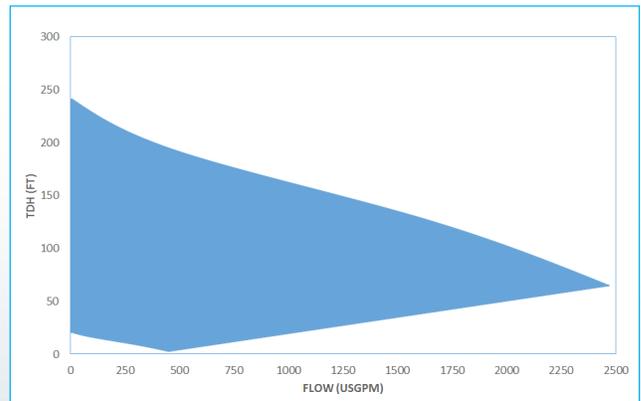
## AV(X)



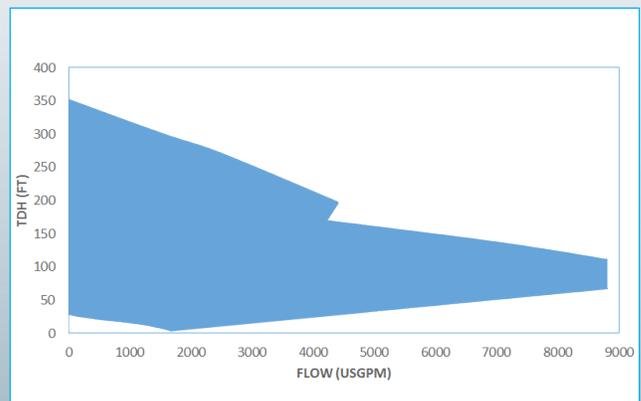
## AMS



## AMX



## AK(X)



## OPTIONS AND ACCESSORIES

Every problem has a unique solution. In order to fit the specific needs of your installation, HOMA offers a wide variety of options and accessories for your pump, as well as additional products, such as mixers.

### STAINLESS STEEL WEAR RING SETS

Hardened 410 stainless steel wear ring system provides long lasting wear ring configuration resistant to both erosion and corrosion, maintaining pump efficiency.



### IMPELLER & VOLUTE COATINGS/ TREATMENTS

Belzona, Teflon, Plasma ion surface hardening, and various ceramic coatings are offered to protect impeller & volute from wear or corrosion. Smooth finish serves to prevent ragging while wear resistant impeller surfaces maintain efficiency.



### STAINLESS STEEL SUMP FLUSH VALVES

Sump Flush Valves keep rags and sedimentation to a minimum, preventing build-up of large entwined solids and floating debris. Keeps pumps operating at their peak efficiencies and avoids costly pump clogs.



### STAINLESS STEEL MIXERS

The HOMA CHRS Series of mixers brings the proven and durable design of our stainless pump series to our line of submersible mixers.





## RETROFIT

Looking to retrofit your current pump with the performance and reliability of a HOMA pump?

HOMA offers an array of competitor adapters that allow you to install your new HOMA pump on an existing rail system. Adapters are available for:

- Xylem (Flygt)
- Myers
- Sulzer (ABS)
- Hydromatic
- and more!

## HOMA PRODUCT RANGE

- Propeller pumps
- Submersible sewage pumps
- Wastewater disposal units
- Mixers and flow generators
- Submersible wastewater pumps
- Injector systems for tank cleaning
- Submersible grinder pumps with cutter system



FIND US ON FACEBOOK!  
[facebook.com/homapumpen](https://www.facebook.com/homapumpen)

## SEVERE DUTY OPTIONS

For the most demanding applications, HOMA can provide a variety of options to fit your needs. Including:

- Complete 316 or Duplex Stainless Steel castings
- Viton Elastomers
- Braided, stainless steel and Teflon cable sheathing
- Chemical resistant coatings
- Plasma nitride-hardened hydraulics



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We reserve the right to alter our specifications without notice!