

# ELECTRIC SUBMERSIBLE SEWAGE PUMPS



Ranges

MX, V, K

Discharge Size

DN 80 - DN 150



**HOMA**  
PUMP TECHNOLOGY

## High Performance in Waste Water Pumping

**HOMA** submersible waste water and sewage pumps operate worldwide in numerous kinds of domestic, municipal and industrial applications. Decades of experience in the design and manufacturing of submersible pumps plus uncompromising attention to quality in every detail and strict monitoring of production quality ensure the utmost reliability and long service life of all **HOMA** products.



### Flexible system-components for problem-free installation

**HOMA** combines efficiency, safety, high quality and robust design with a flexibility that allows the individual optimization of every project realization:

Pumps for various types of application and installation, a complete program of installation equipment including pipes, valves, pump pits from concrete or composite materials, electric control and monitoring systems. With this range **HOMA** can provide a tailor-made solution for every waste water pumping application.



**The reliability of fully automatic operation**

**HOMA** waste water pumping stations feature fully automatic control and monitoring. Reliable liquid level control systems of various types (float switch, pneumatic, ultrasound or electronic systems) are available to secure reliable pump operation at minimum energy consumption. All possible fault factors like shaft seal condition, temperatures, moisture or power supply can be automatically monitored and transferred to various alarm systems.

## Higher Performance to meet every Challenge

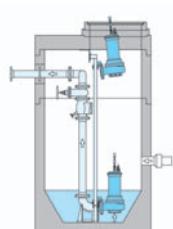
Various challenges – individual solutions: **HOMA** submersible wastewater pumps are designed for pumping sewage, sludge, effluents or surface water, including liquids containing a large proportion of solid or fibrous matter. They are installed in domestic, municipal, industrial and agricultural pumping applications.



### The right installation for every pump station

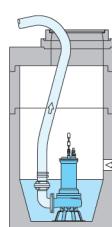
#### Permanent wet well installation

Submerged autocoupling guide tube system for automatic connection and disconnection of the pump from the pipework from outside the sump. All maintenance or repair work can be done outside the sump. Back in operating position, the weight of the pump ensures leak-proof discharge connection.



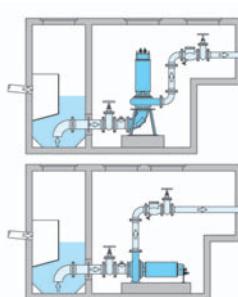
#### Transportable wet well installation

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



#### 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.



#### Operating conditions

The motors are designed for continuous operating duty (S1) at maximum 15 starts per hour. In addition to a fully submerged motor housing in wet well installation, a jacket cooled motor-variant is available for S1 operating 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, as in storm water retention tanks. Vortex or enclosed multichannel impeller pumps are also designed for unlimited continuous operation, such as industrial water supply. In this case a low motor speed should be chosen (4- or 6-pole).

## Ranges and Models

### Motor selection

#### Motor speed:

For the standard hydraulic ranges, the motors are designed with the following speeds:

- 2900 rpm = 2-pole
- 1450 rpm = 4-pole
- 960 rpm = 6-pole

#### Voltages:

All specified data relate to an operating voltage of 400 V/3 Ph, 50 Hz. Different voltages are available on request.

#### Type of starting:

The motors are supplied as standard:

- up to 3,5 kW (P2) for DOL starting
- above 3,5 kW (P2)  
for star-delta-starting

On request all motors are available for operating with frequency converter or soft starter device.

#### Explosion protection:

In addition to the standard version, all motors are available explosion proof according to ATEX Ex II 2 G EExd.

#### Dry well variant:

Besides the version for submerged operation, all pumps are also available for dry well or non-submerged operation. Motor cooling is provided by a cooling jacket, using either the pumped liquid or a closed circuit coolant circulation (model U or L).

#### Motor monitoring:

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

- Motors for wet well installation (without cooling jacket):

Available as C-version (see pump type code) with oil chamber seal condition monitoring probe and – for motors with cable junction chamber – moisture sensor in junction chamber)

- Motors with cooling jacket:

Supplied as standard with oil chamber seal condition monitoring probe. Additional monitoring devices (bearing temperature, stator room moisture) on request.

### Hydraulic selection

#### Discharge and suction flange

- DN 80
- DN 100
- DN 150

Reducing adapters for different auto-coupling system and valve dimensions are available.

#### Impellers:

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 from 80 mm to 100 mm according to pump range.



**MX**

Enclosed single channel impeller

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



**K**

Enclosed multi channel impeller

For liquids containing impurities and sludge with solid particles.



**V**

Vortex impeller

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

#### Pump type code:

Pumpe	MX	2	4	48 -	Motor	T	(U)	6	4	(C)	(EX)
Impeller design	Impeller design	Discharge size:	Spherical clearance:	Impeller diameter	Motor frame size:	Jacket cooled:	Motor power (coded)	Speed:		only for motors without jacket cooling. With:	Explosion proof motor
MX = Enclosed single channel	1 = 80 mm	(mm : 25)	(mm : 5)	C, D, T, P, F, G	Jacket cooled motor for non-submerged installation	2 = 2-pole (2900 rpm)				- oil chamber seal condition monitoring probe	
V = Vortex	2 = 100 mm	3 = 80 mm	e. g.	48 = 240 mm	U= Open circuit pumped liquid cooling	4 = 4-pole (1450 rpm)				- moisture sensor in junction chamber (if exists)	
K = Enclosed two channel	3 = 150 mm	4 = 100 mm			L= Closed circuit liquid cooling	6 = 6-pole (960 rpm)					

## Design – Proven Quality in Detail

### More quality in design and materials – less maintenance and failures

Quality can be measured – **HOMA** submersible waste water pumps are characterized by the robust design, generous dimensioning and high quality materials of all components.

### Materials

Motor housing	Cast iron GG 25/EN-GJL-250 <sup>1)</sup>
Pump housing	Cast iron GG 25/EN-GJL-250 <sup>1)</sup>
Impeller	Cast iron GG 25/EN-GJL-250 <sup>1)</sup> <sup>2)</sup>
Wear rings	Bronze <sup>1)</sup>
Motor shaft	Stainless steel
Mechanical seals	Silicon-carbide / Silicon-carbide
Motor cooling jacket (model U)	Stainless steel
Seals and O-rings	NBR (Perbonane) <sup>3)</sup>
Cable	H07RN-F (PLUS) <sup>4)</sup>

<sup>1)</sup> also available in stainless steel

<sup>2)</sup> also available in bronze

<sup>3)</sup> also available from FPM (vitone)

<sup>4)</sup> screened cable on request

### 1 Discharge

With DIN/ANSI flange DN 80, DN 100 or DN 150 (PN 16)

### 2 Non-clogging, high efficiency impellers

With large spherical clearance.

#### Available:

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

### 3 Shaft seals

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

### 4 Oil chamber

Separate large oil chamber, lubricating and cooling the mechanical seals, forming an extra safety and inspection element. Additional electronic seal condition monitoring probe on request.

### 5 Motor

Three-phase electric motors, with 2-, 4- or 6-pole motor speed. Insulation class F (155 °C), degree of protection IP 68

#### Explosion protection

All models available with explosion proof motors according to ATEX Ex II 2 G EExd.

### 6 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.

### 7 Thermal sensor (bi-metal)

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

### 8 Moisture monitoring in stator chamber

Available on request

### 9 Shaft bearing

Maintenance-free, prelubricated ball bearings.

### 10 Temperature monitoring of the shaft bearings

Available on request.

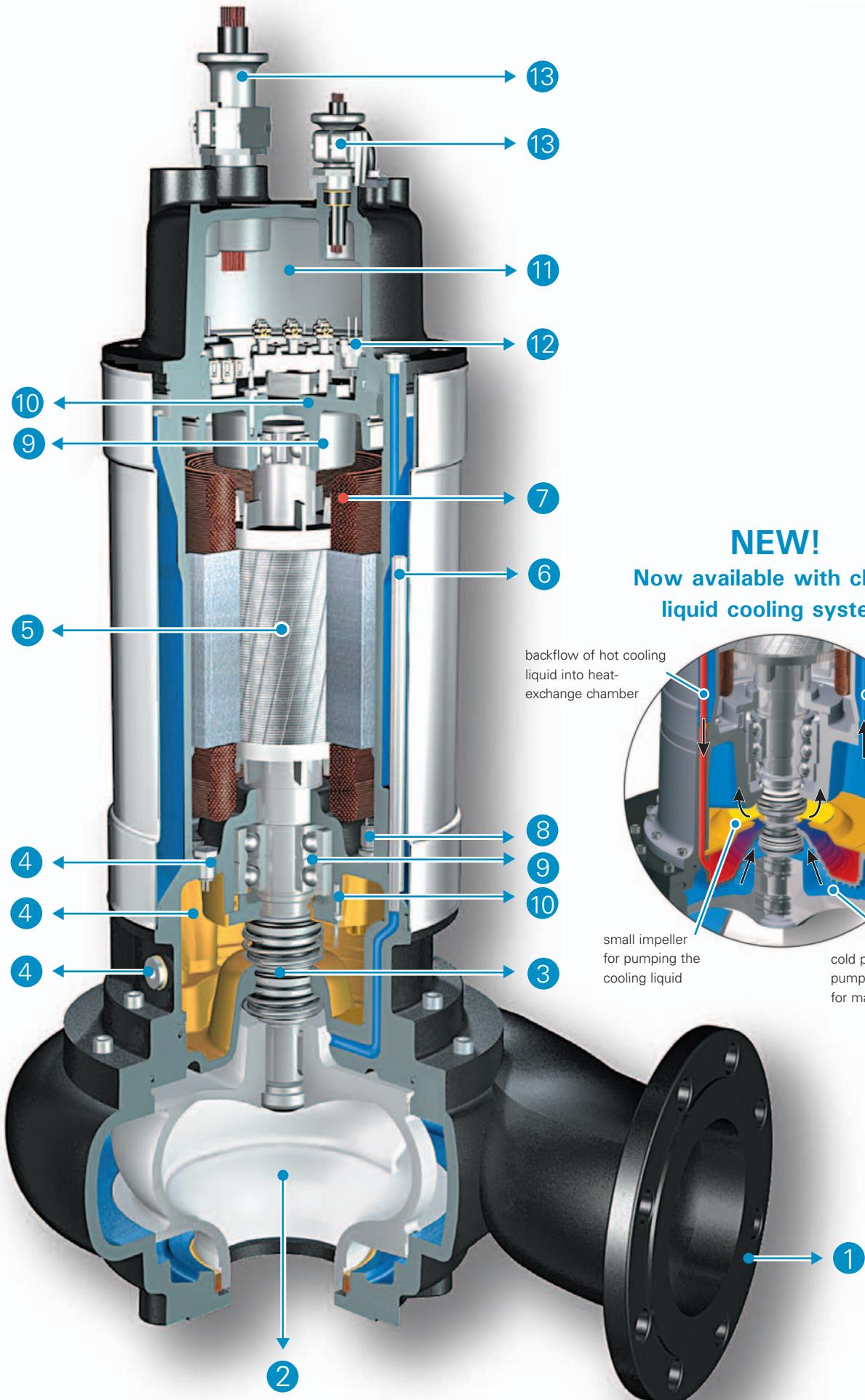
### 11 Cable junction chamber

Separate junction chamber standard from 22 kW-4 pole, below on request.

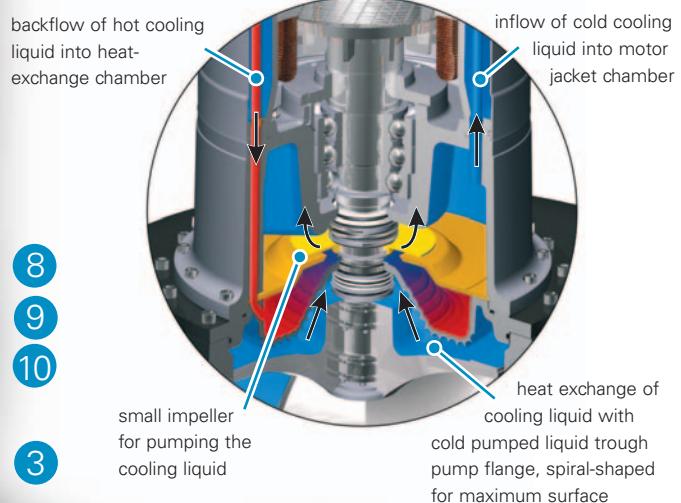
### 12 Electronic moisture sensor in junction chamber

Available on request.

### 13 Pressure sealed, strain relief cable entry



**NEW!**  
Now available with closed  
liquid cooling system



# Pump ranges selection chart

## DN80

**MX 13...2-pole**



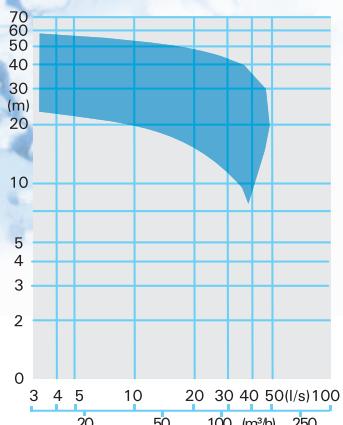
Enclosed single channel impeller

80 mm Ø

Spherical clearance

2900 rpm

[see page 10](#)



## DN80

**MX 13...4-pole**



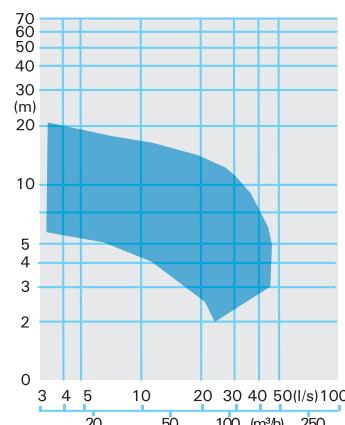
Enclosed single channel impeller

80 mm Ø

Spherical clearance

1450 rpm

[see page 11](#)



## DN100

**MX 23...2-pole**



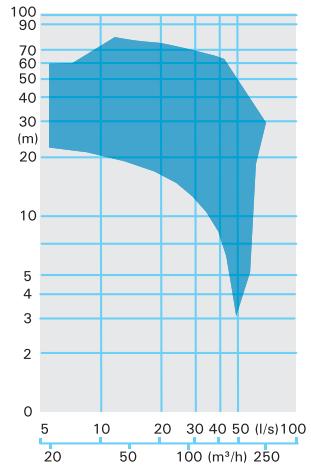
Enclosed single channel impeller

80 mm Ø

Spherical clearance

2900 rpm

[see page 14](#)



## DN100

**MX 23...4-pole**



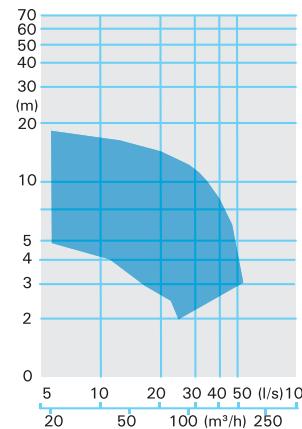
Enclosed single channel impeller

80 mm Ø

Spherical clearance

1450 rpm

[see page 15](#)



## DN100

**MX 24...4-pole**



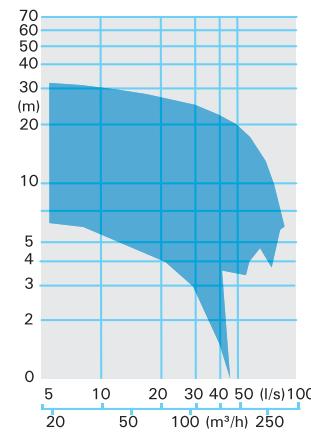
Enclosed single channel impeller

100 mm Ø

Spherical clearance

1450 rpm

[see page 18](#)



## DN100

**MX 24...6-pole**



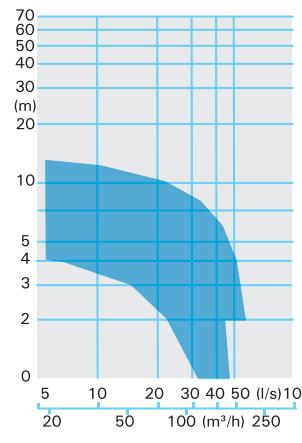
Enclosed single channel impeller

100 mm Ø

Spherical clearance

960 rpm

[see page 19](#)



## DN150

**MX 34...4-pole**



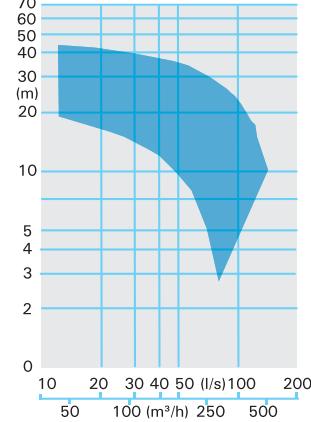
Enclosed single channel impeller

100 mm Ø

Spherical clearance

1450 rpm

[see page 21](#)



## DN150

**MX 34...6-pole**



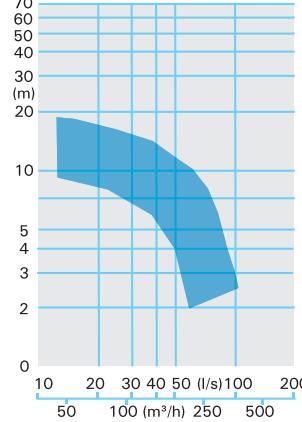
Enclosed single channel impeller

100 mm Ø

Spherical clearance

960 rpm

[see page 22](#)



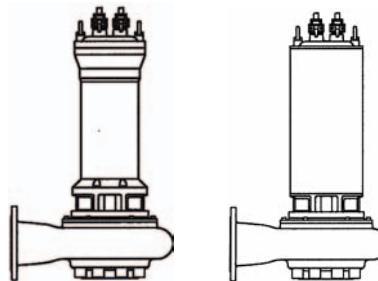


**Enclosed single channel impeller**

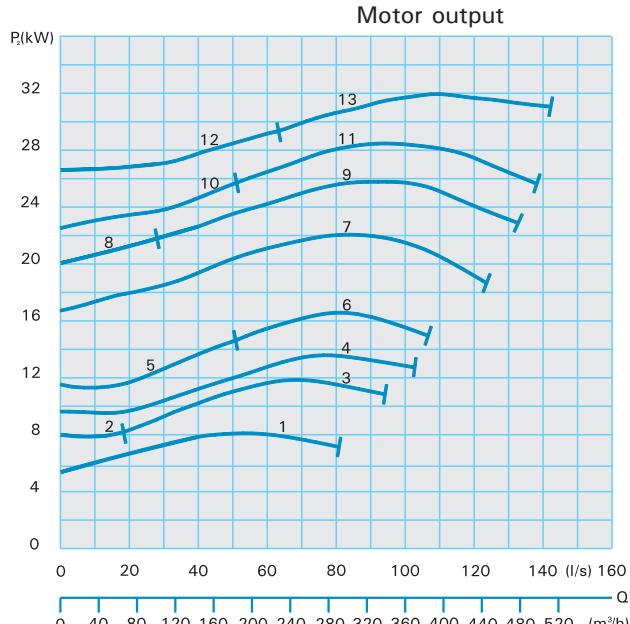
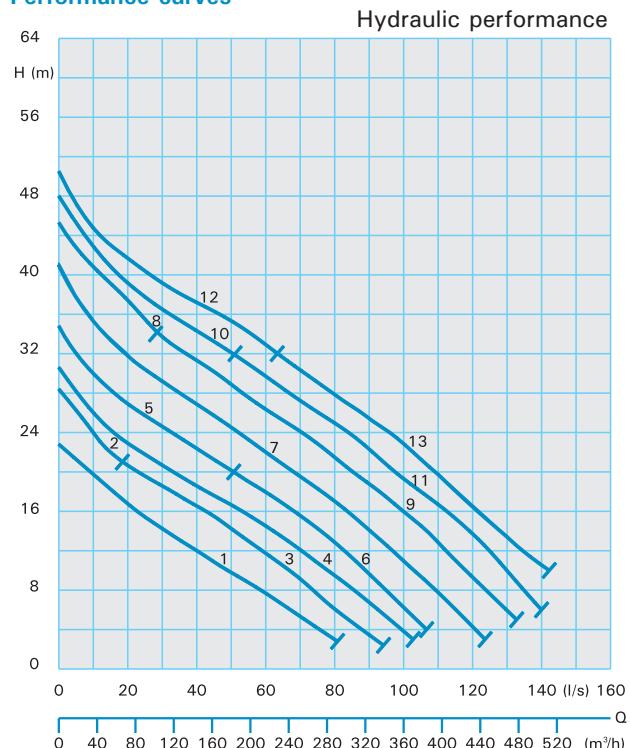
**100 mm Ø**

**Spherical clearance**

**1450 rpm**



## Performance curves



## Technical data

### Standard- and Explosion-proof model – Wet well installation

Curve No.	Pump type	Motor input $P_1$ (kW)	Motor output $P_2$ (kW)	Rated current $I_N$ (A)	Weight standard (kg)	Weight Ex (kg)
1	MX3452-P74(C)(Ex)	10.0	8.5	16.8	189	201
2	MX3456-P74(C)(Ex)	10.0	8.5	16.8	191	203
3	MX3456-P94(C)(Ex)	17.0	14.6	28.8	216	228
4	MX3460-P94(C)(Ex)	17.0	14.6	28.8	217	229
5	MX3462-P94(C)(Ex)	17.0	14.6	28.8	218	230
6	MX3462-P104(C)(Ex)	22.0	19.3	39.1	236	248
7	MX3468-F114(C)(Ex)	25.0	22.0	44.0	388	388
8	MX3470-F114(C)(Ex)	25.0	22.0	44.0	388	388
9	MX3470-F124(C)(Ex)	29.0	25.6	51.4	410	410
10	MX3472-F124(C)(Ex)	29.0	25.6	51.4	410	410
11	MX3472-F134(C)(Ex)	33.0	29.2	59.0	420	420
12	MX3474-F134(C)(Ex)	33.0	29.2	59.0	420	420
13	MX3474-F144(C)(Ex)	37.0	33.0	67.1	430	430

### Standard- and Explosion-proof model – Dry well installation

Curve No.	Pump type	Motor input $P_1$ (kW)	Motor output $P_2$ (kW)	Rated current $I_N$ (A)	Weight standard (kg)	Weight Ex (kg)
1	MX3452-PU74(Ex)	10.0	8.5	16.8	196	208
2	MX3456-PU74(Ex)	10.0	8.5	16.8	198	210
3	MX3456-PU94(Ex)	17.0	14.6	28.8	224	236
4	MX3460-PU94(Ex)	17.0	14.6	28.8	225	237
5	MX3462-PU94(Ex)	17.0	14.6	28.8	226	238
6	MX3462-PU104(Ex)	22.0	19.3	39.1	246	258
7	MX3468-FU114(Ex)	25.0	22.0	44.0	451	451
8	MX3470-FU114(Ex)	25.0	22.0	44.0	451	451
9	MX3470-FU124(Ex)	29.0	25.6	51.4	488	488
10	MX3472-FU124(Ex)	29.0	25.6	51.4	488	488
11	MX3472-FU134(Ex)	33.0	29.2	59.0	498	498
12	MX3474-FU134(Ex)	33.0	29.2	59.0	498	498
13	MX3474-FU144(Ex)	37.0	33.0	67.1	508	508

# DN150 - MX34...6-pole

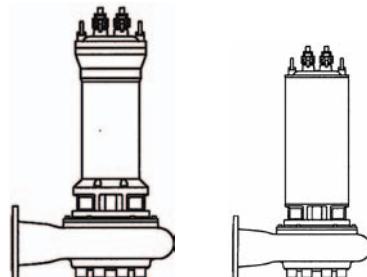


**Enclosed single channel impeller**

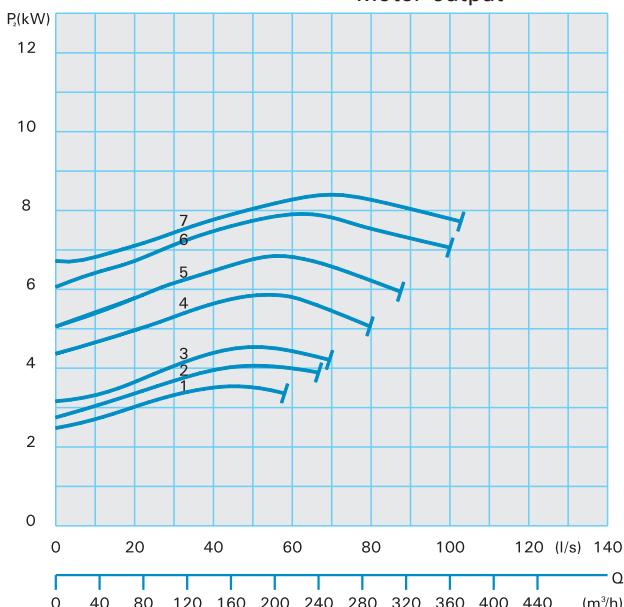
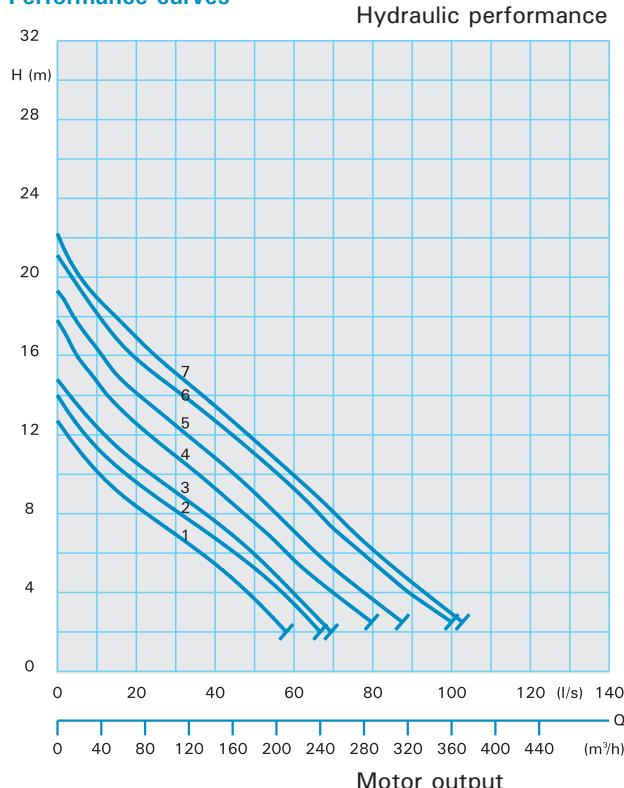
**100 mm Ø**

**Spherical clearance**

**960 rpm**



## Performance curves



## Technical data

### Standard- and Explosion-proof model – Wet well installation

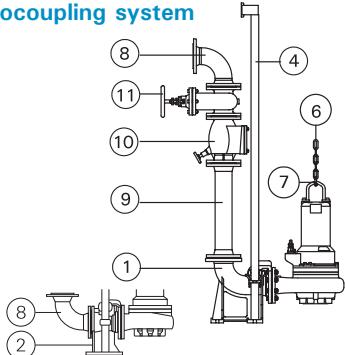
Curve No.	Pump type	Motor input P <sub>1</sub> (kW)	Motor output P <sub>2</sub> (kW)	Rated current I <sub>N</sub> (A)	Weight standard (kg)	Weight Ex (kg)
1	MX3456-T56(C)(Ex)	5.0	4.0	9.6	158	158
2	MX3460-T66(C)(Ex)	6.0	4.9	11.5	159	159
3	MX3462-T66(C)(Ex)	6.0	4.9	11.5	160	160
4	MX3468-P76(C)(Ex)	9.0	7.3	16.3	260	272
5	MX3470-P76(C)(Ex)	9.0	7.3	16.3	260	272
6	MX3472-P86(C)(Ex)	12.0	10.0	22.4	285	297
7	MX3474-P86(C)(Ex)	12.0	10.0	22.4	285	297

### Standard- and Explosion-proof model – Dry well installation

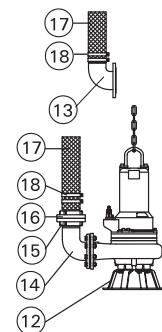
Curve No.	Pump type	Motor input P <sub>1</sub> (kW)	Motor output P <sub>2</sub> (kW)	Rated current I <sub>N</sub> (A)	Weight standard (kg)	Weight Ex (kg)
1	MX3456-TU56(Ex)	5.0	4.0	9.6	164	164
2	MX3460-TU66(Ex)	6.0	4.9	11.5	165	165
3	MX3462-TU66(Ex)	6.0	4.9	11.5	166	166
4	MX3468-PU76(Ex)	9.0	7.3	16.3	267	279
5	MX3470-PU76(Ex)	9.0	7.3	16.3	267	279
6	MX3472-PU86(Ex)	12.0	10.0	22.4	292	304
7	MX3474-PU86(Ex)	12.0	10.0	22.4	292	304

# Accessories

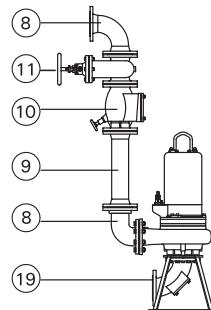
## Permanent wet well installation with autocoupling system



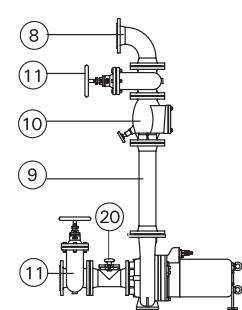
## Transportable wet well installation



## Permanent dry well installation vertical



## Permanent dry well installation horizontal

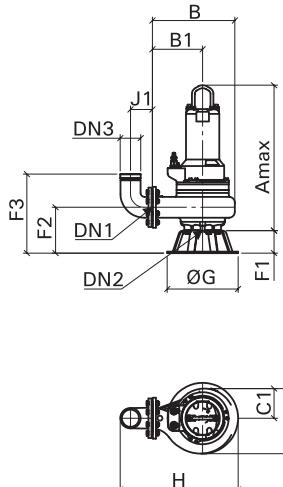


No.	Description	Type	Dimension	Part No.	No.	Description	Type	Dimension	Part No.
①	Auto-coupling system, cast iron, consisting of auto-coupling with flanged elbow, flanged pump coupling and upper slide rail bracket - Cast iron	KK 80/ 80 KK 80/100 KK 100/100 KK 100/ 80 KK 150/150 KK 150/100 KK 200/150	DN 80 DN 80/DN100 DN100 DN100/DN 80 DN150 DN150/DN100 DN200/DN150	8604025 8604030 8604055 8604060 8604070 8603632 8604105	⑩	Flanged swing check valve, cast iron, with gasket and fixing bolts		DN 80 DN100 DN125 DN150 DN200	2212807 2212809 2212810 2212811 2212816
	- Cast iron, upper slide-rail bracket Stainless Steel	KKR 80/ 80 KKR 80/100 KKR100/100 KKR100/ 80 KKR150/150 KKR150/100 KKR200/150	DN 80 DN 80/DN100 DN100 DN100/100 DN150 DN150/100 DN200/150	8604026 8604031 8604056 8604061 8604071 8604073 8604106	⑪	Flanged gate valve, cast iron, with gasket and fixing bolts		DN 80 DN100 DN125 DN150 DN200	2216080 2216100 2216125 2216150 2216200
	- complete Stainless Steel	KKC 80/ 80 KKC100/100 KKC150/150	DN 80 DN100 DN150	8604027 8604057 8604072	⑫	Ring base stand up to 16,9 kW (P2) from 17,0 kW (P2)	NB 100 A NB 150 A NB 150	DN100 DN150 DN150	7321215 7321285 7321275
②	Auto-coupling system consisting of auto-coupling with horizontal discharge flange, flanged pump coupling and upper slide rail bracket	KS 80/ 100 KS 100/100 KS 150/150 KS 200/150	DN 80/DN100 DN100 DN150 DN 200/DN150	8604045 8604065 8604075 8604083	⑬	Flanged spigot elbow with gasket and fixing bolts		DN100/110mm	6001141
④	Guide rails, pair, per meter - Galvanized steel		1 1/2" for DN 80/DN100 2" for DN150 2 1/2" for DN200	2190155 2190205 2190225	⑭	90° Flanged elbow Double nipple Threaded flange	R3"IG/AG R3" AG DN80/R3"IG	2111805 2128030 2215080	
	- Stainless steel		1 1/2" for DN 80/DN100 2" for DN150 2 1/2" for DN200	2190254 2190256 2190258		Flanged to thread elbow with gasket and fixing bolts	DN100xR4"AG DN150xR6"AG	6001121 6001205	
	Upper slide rail bracket, stainless steel		on request		⑮	STORZ-fixed coupling		B-R3"AG B-R3"IG A-R4"IG F-R6"	2010603 2010602 2010701 2010961
⑥	Lifting chain, Galvanized steel, per meter		5 mm Ø 8 mm Ø 10 mm Ø	2800350 2800380 2800410	⑯	STORZ-hose coupling with spigot	B-75 mm A-110 mm F-150 mm	2013502 2013801 2013901	
	Stainless steel AISI316 (A4), per meter		8 mm Ø 10 mm Ø	2800384 2800386		STORZ-reducer	A - B F - A	2015612 2015622	
⑦	Galvanized steel shackle		f. 5 mm Ø f. 8 mm Ø f. 10 mm Ø	2801450 2801380 2801410	⑰	Reinforced hose, per m (inner dia. in mm)	75 mm 110 mm 150 mm	2632075 2632110 2632150	
	Stainless steel shackle AISI316 (A4)		f. 8 mm Ø f. 10 mm Ø	2801384 2801386		Rubber hose (inner dia. in mm)	75 mm 110 mm	2642075 2642110	
⑧	90° flanged elbow		DN 80 DN 100 DN 150 DN 200	2153302 2153303 2153353 2153363		Hose with pre-attached couplings	on request		
	or flanged y-piece for twin pump arrangement, horizontal discharge (optional with vertical discharge) available with different dimensions according to sump dimension (see dimensions) with gasket and fixing bolts		DN 80/ 80 DN 80/100 DN 100/100/100 DN 100/100/125 DN 100/100/150 DN 150/150/150 DN 200/200/200	DN 80/ 80 DN 80/100 DN 100/100/100 DN 100/100/125 DN 100/100/150 DN 150/150/150 DN 200/200/200	⑯	Hose bands	S 85/20 S100/20 S115/20 S118/20 S172/20	2308520 2310020 2311820 2311820 2317520	
⑨	Flanged discharge pipe, 1 m, with gasket and fixing bolts		DN 80 DN 100 DN 125 DN 150 DN 200	2152081 2152201 2152221 2152251 2152271	⑰	Flanged pump stand with gasket and fixing bolts	TVS 100 A (up to 28kW) TVS 150 A	DN100 DN150	7321705 7321725
	Discharge pipe, per additional meter		DN 80 DN 100 DN 125 DN 150 DN 200	2150180 2150100 2150125 2150150 2150200		Pump stand with suction elbow, cleaning hole, gasket and fixing bolts	TVS 100 A-R (up to 28kW) TVS 100 A-R TVS 150 A-R TVS 150-R TVS 150/200 A-R TVS 150/200-R	DN100 DN100 DN150 DN150 DN150/DN200 DN150/DN200	8604220 8604221 8604225 8604230 8604232 8604235
	Flanged reducer		on request		⑳	Flanged pipe with cleaning hole, gasket and fixing bolts		DN100 DN150	2159810 2159815
	Kit of gaskets and fixing bolts		various	various		Stainless steel coupling systems, elbows, pipes, fittings (valves, flaps etc.) on request. Electrical or electronic control panels for pumps and pump stations with accessories on request. Sumps of concrete or synthetic material for complete pump stations please see special leaflet.	various	various	

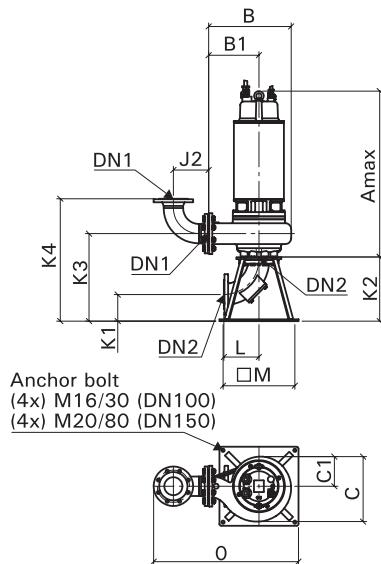


K1	K2	K3	K4	L	$\Delta M$	O	P1	P2	Q	Rmax	S1	S3	Tmax	Umax	V1
148	357	450	614	195	400	687	200	400	93	700	280	95	548	648	260
148	357	450	615	195	400	687	200	400	93	948	280	95	796	896	310
148	357	476	641	195	400	767	200	480	119	1063	280	95	886	986	310
148	357	450	614	195	400	687	200	400	93	627	280	95	475	575	260
148	357	476	640	195	400	767	200	480	121	726	280	95	548	648	260
148	357	435	599	195	400	707	200	420	250	882	360	110	738	843	260
148	357	435	600	195	400	897	200	450	250	1219	360	110	1075	1180	310
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148	357	435	599	195	400	737	200	450	250	809	360	110	665	770	260
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148	357	475	670	195	400	807	200	480	119	1282	280	95	1087	1187	360
148	357	450	645	195	400	727	200	400	93	625	280	95	469	569	260
148	357	475	670	195	400	807	200	480	118	726	280	95	548	648	260
148	357	480	674	195	400	792	200	465	123	680	280	95	498	598	260
148	357	487	681	195	400	807	200	480	130	749	280	95	560	660	260
205	502	637	831	283	520	941	250	595	135	766	350	120	572	682	260
207	500	635	830	283	520	883	250	595	135	1096	350	120	902	1012	310
148	357	480	674	195	400	792	200	465	123	680	280	95	498	598	260
148	357	487	681	195	400	807	200	480	130	749	280	95	560	660	260
205	502	637	831	283	520	941	250	595	135	766	350	120	572	682	260
148	357	445	639	195	400	767	200	440	260	809	360	110	665	770	260
148	357	445	639	195	400	807	200	480	260	809	360	110	665	770	260
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150	357	487	681	195	400	807	200	480	130	996	280	95	807	907	310
207	500	635	830	283	520	883	250	595	135	1006	350	120	842	952	310
207	500	635	906	283	520	1076	315	765	139	1096	450	120	902	1012	310
202	500	639	925	283	560	1132	315	765	139	1323	450	120	1106	1216	360
202	500	639	910	283	560	1168	315	765	139	1382	450	120	1144	1254	410
207	500	638	909	283	520	1168	315	765	138	1100	450	120	902	1012	310
207	500	635	906	283	520	1076	250	620	135	1096	350	120	902	1012	310
202	500	638	924	283	560	1102	310	730	138	1206	350	90	1000	1100	360
205	502	637	908	283	520	1076	250	620	135	766	350	120	572	682	260
207	500	638	909	283	520	1126	310	730	138	1028	350	90	831	931	310

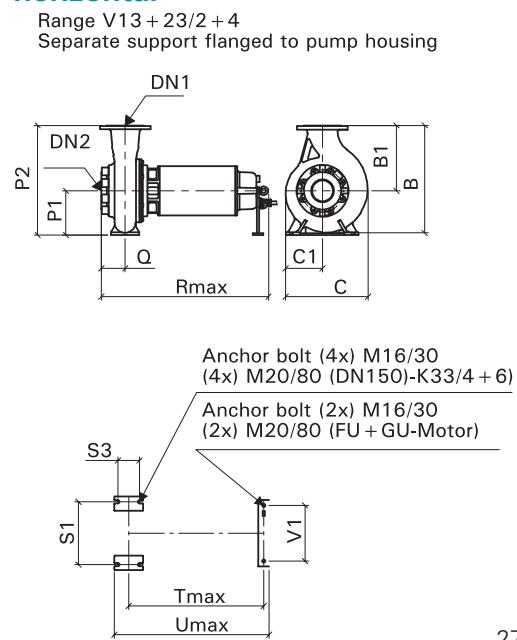
### Wet well installation with base stand



### Dry well installation vertical



### Dry well installation horizontal





## HOMA Product Range

- Submersible waste water pumps
- Deep-well submersible pumps
- Submersible sewage pumps
- Submersible grinder pumps with cutter system
- Waste water disposal units
- Sewage disposal units
- Packaged pump stations
- Mixers and flow generators
- Injector systems for tank cleaning
- Garden pumps and domestic booster units
- Control boxes

## Worldwide Presence

HOMA pumps are installed in more than 60 countries around the world – in countless projects of various kinds. They comply to all international safety and quality standards and are certified by many institutions and organisations responsible for national waste water treatment standards. To maintain and further develop this high quality level is our main target.

## Network of Sales and Service Partners

HOMA provides a worldwide network of agents and distributors supporting our customer with excellent sales and service assistance in planning, specification and selection, including a computer software program available on CD-ROM or from the WorldWide-Web.

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e-mail: [info@homa-pumpen.de](mailto:info@homa-pumpen.de) ➤ Internet: [www.homapumps.com](http://www.homapumps.com)

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