

# MXS

## Multi-Stage Submersible Clean Water Pumps in stainless steel



### Materials

Component	Material	
Delivery casing	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)	
External jacket		
Suction strainer		
Stage casing		
Spacer sleeve		
Impeller		
Motor jacket		
Oil chamber cover		
Shaft		Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Motor shield		Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Upper mechanical seal	Steatite, carbon, NBR	
Lower mechanical seal	Ceramic alumina, silicon carbide, NBR	
Seal lubrication oil	Oil for food machinery and pharmaceutical use	

### Construction

Close coupled multi-stage submersible pumps.  
**All parts in contact with the fluid both internal and external are in chrome-nickel stainless steel.**  
 MXSM with built-in capacitor, accessible through the delivery casing. Hydraulics located below the motor with the motor cooled by the pumped fluid. Safe operation is possible with the motor only partially submerged.  
 Double shaft seal with oil chamber.  
 The suction strainer prevents the entrance of solids with diameter bigger than 2 mm.

### Applications

For water supply from wells, tanks or reservoirs.  
 For domestic, civil and industrial applications, for garden use, irrigation and rain water harvesting systems.

### Operating conditions

Water temperature up to 35 °C.  
 Minimum internal diameter of well: 140 mm.  
 Minimum immersion depth: 100 mm.  
 Maximum immersion depth: 20 m (with suitable cable length).  
 Continuous duty.

### Motor

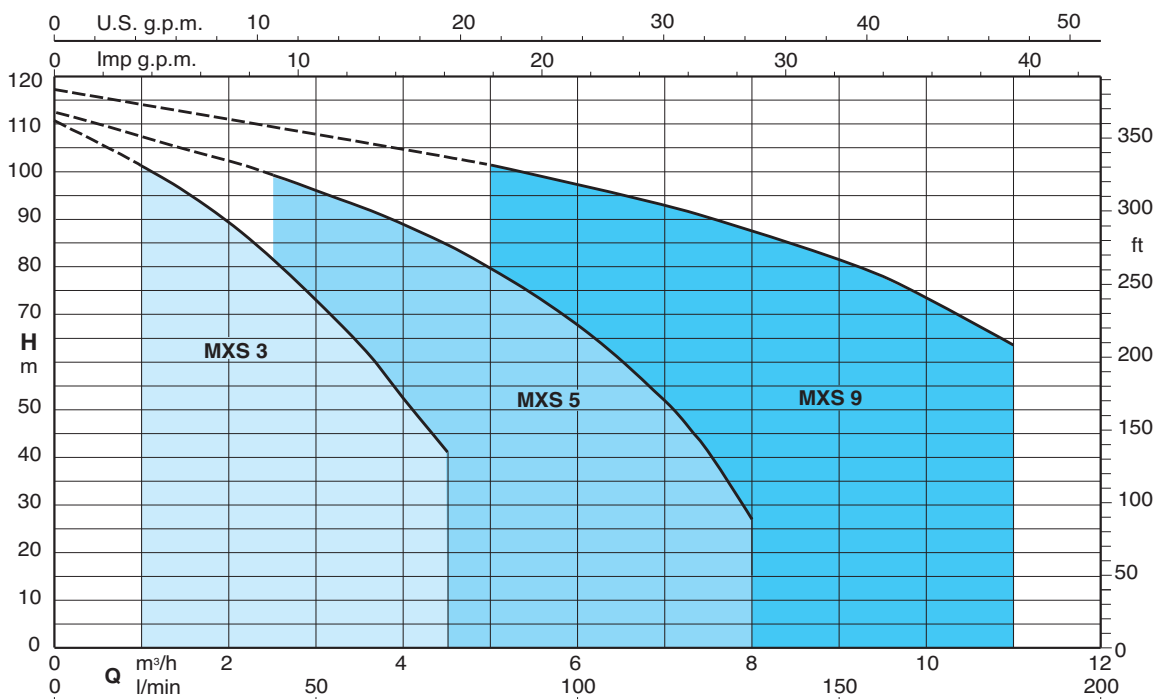
2-pole induction motor, 50 Hz (n = 2900 1/min).  
**MXS** : three-phase 230 V ± 10%;  
 three-phase 400 V ± 10%.  
 Cable: H07RN8-F, length 15 m, without plug.  
**MXSM** : single-phase 230 V ± 10%, with thermal protector up to 1,8 kW.  
 Incorporated capacitor.  
 Float switch MXSM.. CG up to 10A (on demand)  
 Cable: H07RN8-F, length 15 m, with plug CEI-UNEL 47166.

Insulation class F.  
 Protection IP 68 (for continuous immersion).  
 Double impregnation humidity-proof dry winding.  
 Constructed in accordance with EN 60335-2-41.

### Special features on request

- Other voltages. - Frequency 60 Hz (as per 60 Hz data sheet).
- Cable length 20 m.
- Motor suitable operation with frequency converter.

### Coverage chart n ≈ 2900 rpm



### Performance n ≈ 2900 rpm

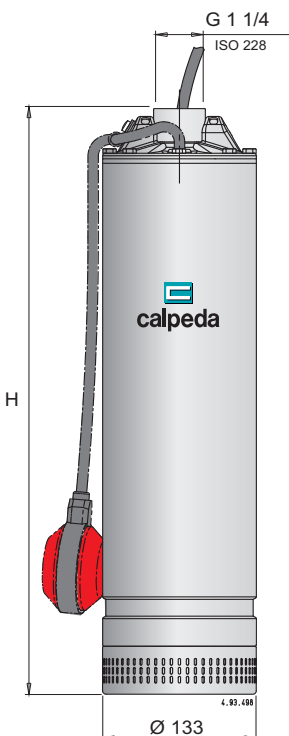
3 ~	230 V		1 ~	230 V			Capacitor	P1		P2		Q	m³/h									
	A	A		A	μF	V		kW	kW	HP	l/min		0	1	1,5	2	2,5	3	3,5	4	4,5	
MXS 303	2,4	1,4	MXSM 303	3,5	14	450	0,8	0,45	0,6	H m	32,5	29,5	27,5	25,5	23	19,5	17	13	10			
MXS 304	2,8	1,6	MXSM 304	4,1	20	450	0,9	0,55	0,75		44	41,5	39,5	36,5	33,5	29,5	25,5	21	16			
MXS 305	3,3	1,9	MXSM 305	5	20	450	1,1	0,75	1		53	49,5	47	44	40	35	30	25	19			
MXS 306	3,8	2,2	MXSM 306	6	25	450	1,3	0,9	1,2		65	61	58	54	49	43	37	30,5	23			
MXS 307	4,5	2,6	MXSM 307	6,6	25	450	1,5	0,9	1,2		77,5	71	66,5	61	55	49	42	35	27			
MXS 308	4,8	2,8	MXSM 308	8,3	30	450	1,7	1,1	1,5		88,5	81,5	76	70,5	64	56,5	49,5	41	32			
MXS 309	6,6	3,8	MXSM 309	9	30	450	1,9	1,5	2		100	91	85	78,5	70,5	62,5	54,4	45	35			
MXS 310	7,5	4,3	MXSM 310	12	35	450	2,2	1,5	2		111	101,5	95	88,5	80	71	62	52,5	41,5			

3 ~	230 V		1 ~	230 V			Capacitor	P1		P2		Q	m³/h									
	A	A		A	μF	V		kW	kW	HP	l/min		0	2,5	3	3,5	4	4,5	5	6	7	8
MXS 503	2,8	1,6	MXSM 503	4,1	20	450	0,9	0,55	0,75	H m	32,2	28,5	27,5	26	24,5	22,5	21,5	18	13,5	8		
MXS 504	3,8	2,2	MXSM 504	6	25	450	1,2	0,9	1,2		43	39	38	36,5	34,5	33	30,5	25,5	19,5	13		
MXS 505	4,5	2,6	MXSM 505	7	25	450	1,5	1,1	1,5		53	47,5	45,5	43,5	41	38,5	35,5	29,5	22	13,5		
MXS 506	4,8	2,8	MXSM 506	8,3	30	450	1,7	1,1	1,5		66,5	58	55,6	53,5	51	48	45	36,5	27,5	16		
MXS 507	6,8	3,9	MXSM 507	12	35	450	2,2	1,5	2		78,5	69,5	66,5	64	61,5	58	54,5	45,5	36	22		
MXS 508	7,5	4,3	MXSM 508	13	35	450	2,4	1,5	2		88,5	78	75	72	68	64	60	50	38	25		
MXS 509	9,7	5,6	MXSM 509	14,3	40	450	2,9	2,2	3		101	91	87,5	84	80,5	75,5	71	60	46,5	28,5		
MXS 510	9,7	5,6						2,2	3		113	101	98,5	95	92	87,5	83	71,5	56	35		

3 ~	230 V		1 ~	230 V			Capacitor	P1		P2		Q	m³/h									
	A	A		A	μF	V		kW	kW	HP	l/min		0	5	6	7	8	9	10	11		
MXS 903	4,5	2,6	MXSM 903	7	25	450	1,5	1,1	1,5	H m	34,5	29,5	28	26,5	24,5	22,5	20	16,5				
MXS 904	6,6	3,8	MXSM 904	9	30	450	1,9	1,5	2		45,5	39	37	35	32,5	30	26,5	22,5				
MXS 905	7,5	4,3	MXSM 905	13	35	450	2,4	2,2	3		58	49	46,5	45	42,5	38,5	34	30				
MXS 906	9,7	5,6	MXSM 906	14,3	40	450	2,9	2,2	3		70	59,5	56,5	54	50,5	46,5	42	37				
MXS 907	11,4	6,6						3	4		81	71	68,5	66	62	58	53	47				
MXS 908	17,7	8,5						3	4		93	81	78	75	71	66	60,5	53				
MXS 909	17,7	8,5						3	4		105	92	88	84	79	73,5	67,5	57,5				
MXS 910	17,7	8,5						3	4		117	101,2	96,5	93	87,5	81,5	73,5	63,5				

P1 Max. power input. P2 Rated motor power output. Tolerances according to ISO 9906, annex A. Test results with clean cold water, without gas content.

### Dimensions and weights



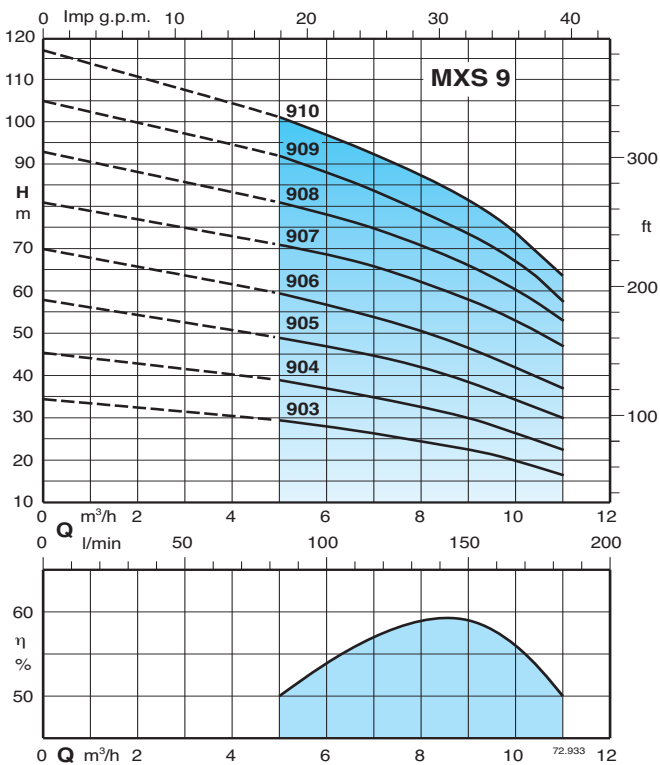
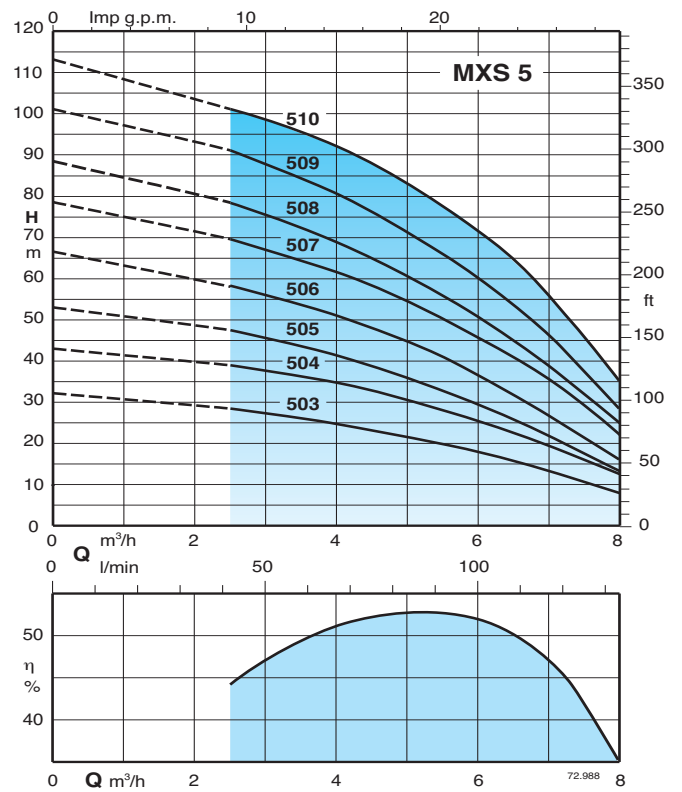
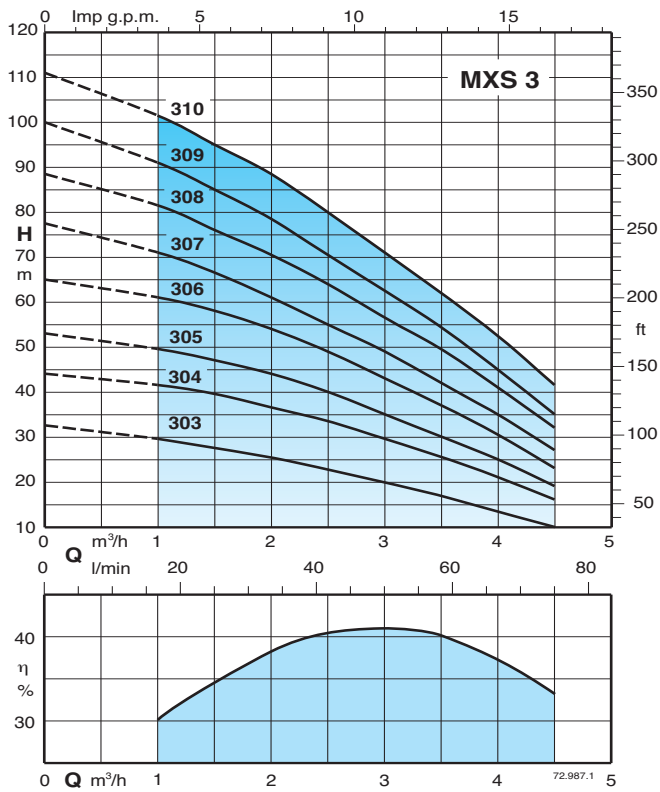
MXSM ... CG

With float switch pump up to 10A  
(on demand)

### Weights with cable length: 15 m

Pump	H mm	kg		Cavo H07RN8-F		
		MXS	MXSM	230V 1 ~	230V 3 ~	400V 3 ~
MXS 303 - MXSM 303	465	12,5	13,5	3G1 mm²	4G1 mm²	4G1 mm²
MXS 304 - MXSM 304	504	14,5	15,5	3G1 mm²	4G1 mm²	4G1 mm²
MXS 305 - MXSM 305	553	15	16,5	3G1 mm²	4G1 mm²	4G1 mm²
MXS 306 - MXSM 306	577	15,5	17	3G1 mm²	4G1 mm²	4G1 mm²
MXS 307 - MXSM 307	601	16	17,5	3G1 mm²	4G1 mm²	4G1 mm²
MXS 308 - MXSM 308	671	18,5	19,5	3G1,5 mm²	4G1 mm²	4G1 mm²
MXS 309 - MXSM 309	695	20,6	21,6	3G1,5 mm²	4G1,5 mm²	4G1 mm²
MXS 310 - MXSM 310	744	23	25,1	3G2,5 mm²	4G1,5 mm²	4G1 mm²
MXS 503 - MXSM 503	480	14,5	15,5	3G1 mm²	4G1 mm²	4G1 mm²
MXS 504 - MXSM 504	529	15	16	3G1 mm²	4G1 mm²	4G1 mm²
MXS 505 - MXSM 505	553	16,1	17,6	3G1 mm²	4G1 mm²	4G1 mm²
MXS 506 - MXSM 506	622	17,5	19	3G1,5 mm²	4G1 mm²	4G1 mm²
MXS 507 - MXSM 507	671	20	21,5	3G2,5 mm²	4G1 mm²	4G1 mm²
MXS 508 - MXSM 508	695	20,5	22	3G2,5 mm²	4G1,5 mm²	4G1 mm²
MXS 509 - MXSM 509	744	23	24,5	3G2,5 mm²	4G1,5 mm²	4G1 mm²
MXS 510	768	27			4G1,5 mm²	4G1 mm²
MXS 903 - MXSM 903	523	16,1	17,6	3G1,5 mm²	4G1 mm²	4G1 mm²
MXS 904 - MXSM 904	573	18,2	19,7	3G1,5 mm²	4G1 mm²	4G1 mm²
MXS 905 - MXSM 905	653	19	22	3G1,5 mm²	4G1,5 mm²	4G1 mm²
MXS 906 - MXSM 906	708	23	26	3G2,5 mm²	4G1,5 mm²	4G1 mm²
MXS 907	738	26,3			4G2,5 mm²	4G1 mm²
MXS 908	793	27			4G2,5 mm²	4G1 mm²
MXS 909	823	28,1			4G2,5 mm²	4G1,5 mm²
MXS 910	853	29,5			4G2,5 mm²	4G1,5 mm²

### Characteristic curves $n \approx 2900$ rpm



### Features

#### Flexible

Allows the inspection of the capacitor without disassembling the pump, through the delivery casing.

#### Reliable

The ball bearings and shaft are sized in order to reduce stresses, guaranteeing high reliability in any operating condition.

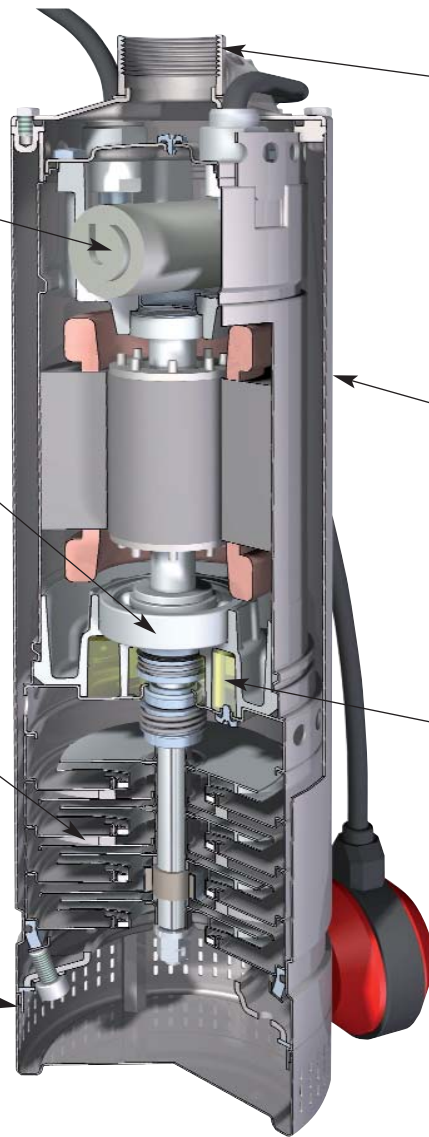
#### Totally in stainless steel

All parts in contact with the pumped liquid both internal and external are in stainless steel AISI 304, without plastic materials and components.

#### Low cost installation

Immersed, without suction pipe and valves. The cylindrical suction strainer provides support for the pump when installed on a flat surface or tank bottom. For operation with 100 mm minimum water level.

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#### Robust

Its robust stainless steel construction allows for the pump to be suspended from the delivery pipe.

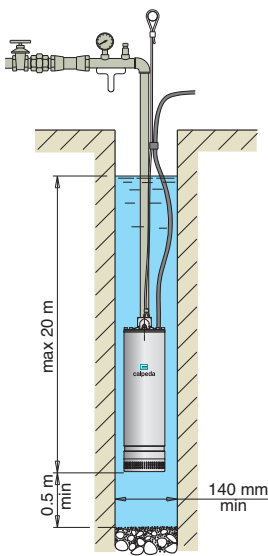
#### Low-Noise operation

The design of hydraulic parts, the water-filled shroud around the motor and the submerged operation ensures low noise operation.

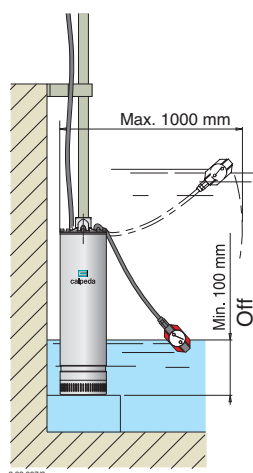
#### Greater Safety

The double shaft sealing with an oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

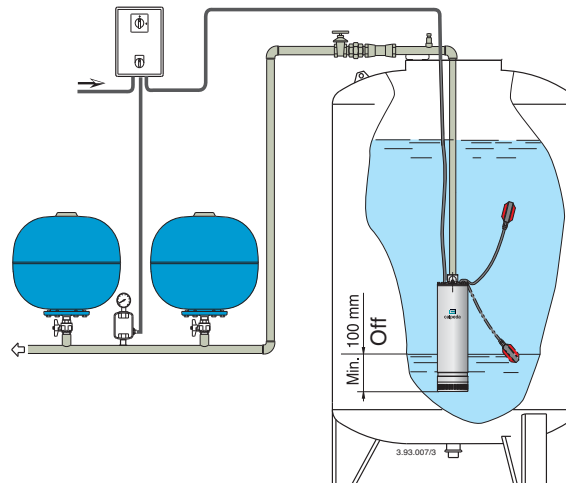
### Installation



Pump in suspended position



Pump with float switch (on demand)



Installation example