

# KE DOUBLE-IMPELLER

## DOUBLE-IMPELLER CENTRIFUGAL ELECTRIC PUMPS WITH MCE/P INVERTER



### TECHNICAL DATA

**Operating range:** from 2 to 30 m<sup>3</sup>/h with head of up to 95 metres.

**Liquid temperature range:**

from -10 °C to +50 °C: for KE 35/40, KE 45/50, KE 55/100,  
from -15 °C to +80 °C: for KE 55/50, KE 66/100, KE 90/100, KE 70/300,  
KE 80/300, KE 70/400, KE 80/400.

**Pumped liquid:** clean, free of solids and abrasives, non-viscous, non-aggressive, non-crystallised and chemically neutral, with properties similar to water.

**Maximum ambient temperature:** +40 °C.

**Maximum operating pressure:**

KE 35/40: 6 bar (600 kPa)  
KE 45/50, KE 55/50: 8 bar (800 kPa)  
KE 55/100, KE 66/100: 10 bar (1000 kPa)  
KE 90/100, KE 70/300, KE 80/300, KE 70/400, KE 80/400: 12 bar (1200 kPa).

**Protection class at the terminal board:** IP 55.

**Protection class:** IP 44

**Insulation class:** F

**Installation:** normally in horizontal or vertical position, provided that the motor is always above the pump.

### APPLICATIONS

Double-impeller centrifugal pump designed for the realisation of pressurization units in water systems and filling of pressure vessels. Suitable for sprinkler systems and other general water supply uses.

### CONSTRUCTION FEATURES OF THE PUMP

Pump body and motor support in cast iron.  
Opposite technopolymer impellers.  
Carbon/ceramic mechanical seal.

### CONSTRUCTION FEATURES OF THE MOTOR

Closed asynchronous type, external ventilation cooling.  
Rotor running on permanently lubricated ball bearings, oversized to ensure low noise and durability.  
Construction according to CEI 2-3.  
Controlled by MCE inverter.

**Standard single-phase voltage:** 1x230 V / 50-60 Hz

**Special version on request:** three-phase 3x400 V / 50 Hz, or three-phase 3x460 V / 60 Hz

**Standard three-phase voltage:** 3x400 V / 50 Hz

**Special version on request:** 3x460 V / 60 Hz

# KE DOUBLE-IMPELLER

## DOUBLE-IMPELLER CENTRIFUGAL ELECTRIC PUMPS WITH MCE/P INVERTER

### MCE/P INVERTER



#### CONSTRUCTION FEATURES OF THE ELECTRONICS: MCE/P INVERTER

The inverter continuously adjusts the rotation speed of the electric pump, keeping the pressure constant, even when the flow rate varies.

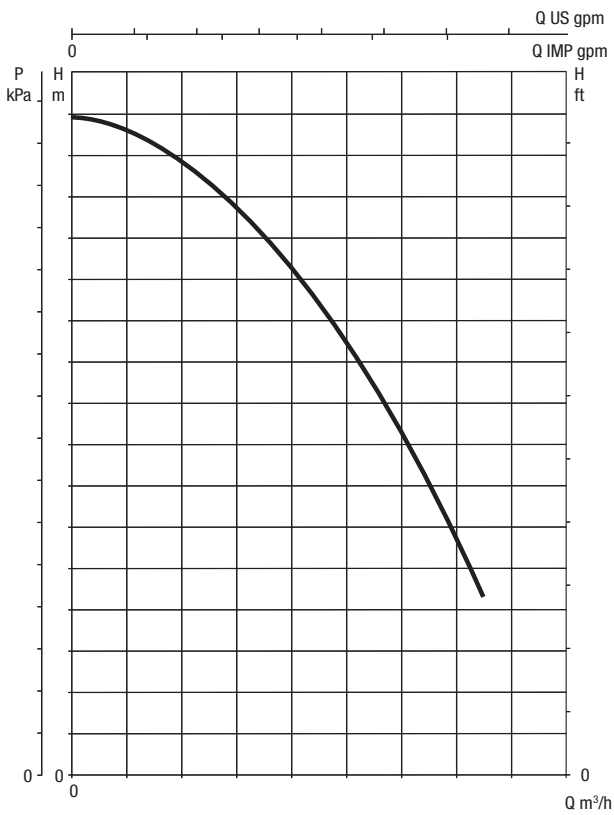
The other electric pumps, also with variable speed, are activated in cascade after the first one has reached maximum speed. Through modulation, they compensate the pressure fluctuations of the system.

For every operating cycle, it is possible to switch the restart to a different pump, therefore ensuring even use of all electric pumps.

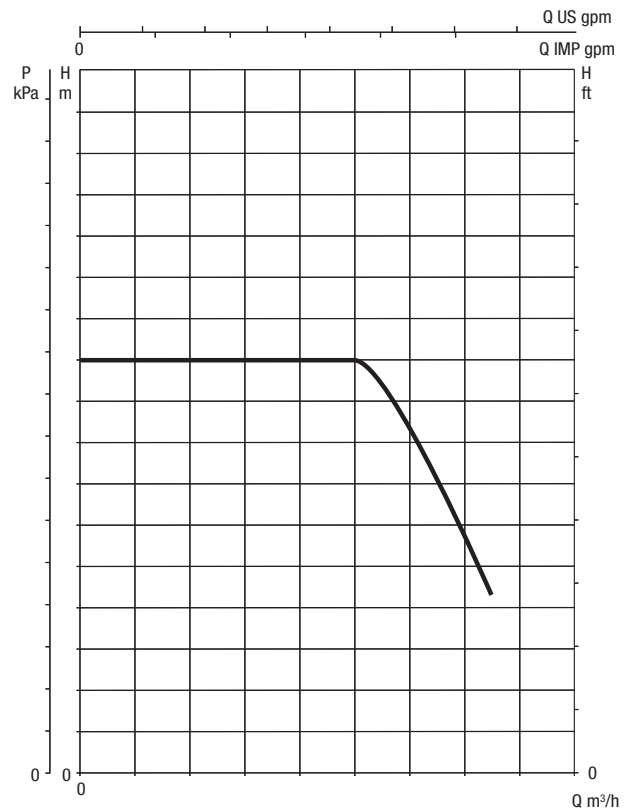
It is possible to set operation times for each individual pump, switching to another pump after such set times.

The "SP" pressure can be adjusted by the user using the "+" and "-" keys found on the MCE/P (as a rule, all the pumps are set to the same pressure value). With the new MCE/P, it is sufficient to set the data on one of the devices, and it will be automatically propagated to the other pumps of the system.

### MODES OF OPERATION



PERFORMANCE CURVES WITHOUT INVERTER



PERFORMANCE CURVES WITH INVERTER

The inverter is capable of maintaining a constant pressure even when the flow rate varies.

The operating pressure can be adjusted by the user.

A good pressure set-point is between 1/3 and 2/3 of the maximum head of the electric pump. In this way, high efficiency of the pump is maintained, together with maximum saving.

In addition, the MCE/P does not block the pump if the pressure is not reached, but the flow is present. This prevents service interruptions in case of high flows.

**For more information refer to the technical appendix.**

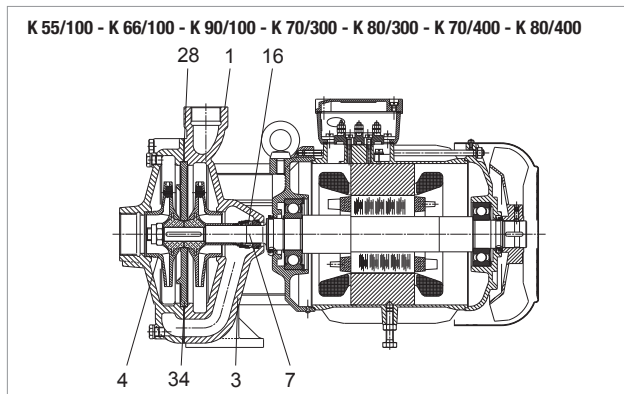
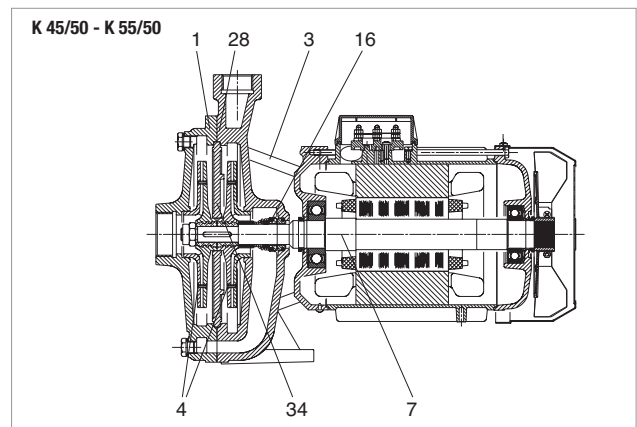
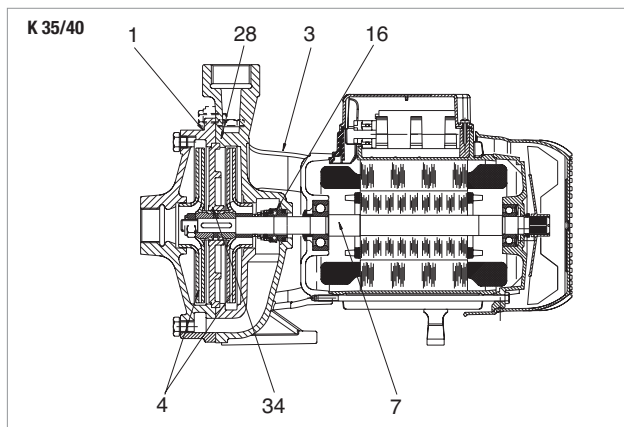
# KE DOUBLE-IMPELLER

## DOUBLE-IMPELLER CENTRIFUGAL ELECTRIC PUMPS WITH MCE/P INVERTER

### MATERIALS

N.	PARTS	MATERIALS	MODELS
1	PUMP BODY	CAST IRON 200 UNI ISO 185	
3	SUPPORT	CAST IRON 200 UNI ISO 185	
4	IMPELLER	TECHNOPOLYMER A	K 35/40; K 45/50; K 55/100
		TECHNOPOLYMER B	K 55/50; K 66/100; K 90/100; K 70/300; K 80/300; K 70/400; K 80/400
7	SHAFT WITH ROTOR	AISI 416 STAINLESS STEEL X12CRS13 UNI 6900/71	K 35/40
		AISI 303 STAINLESS STEEL X10CRNIS 1089 UNI 6900/71	K 45/50; K 55/50; K 55/100; K66/100; K 90/100
		AISI 304 STAINLESS STEEL X5 NI 1810 UNI 6900/71	K 70/300; K 80/300; K 70/400; K 80/400
16	MECHANICAL SEAL	CARBON / CERAMIC	
28	GASKET	NBR RUBBER	K 35/40; K 45/50; K 55/50; K 55/100
34	INTERMEDIATE DISC	CAST IRON 200 UNI ISO 185	K 35/40; K 45/50; K 55/50; K 55/100; K 66/100; K 90/100; K 70/300; K 70/400; K 80/300; K 80/400

\* In contact with the liquid

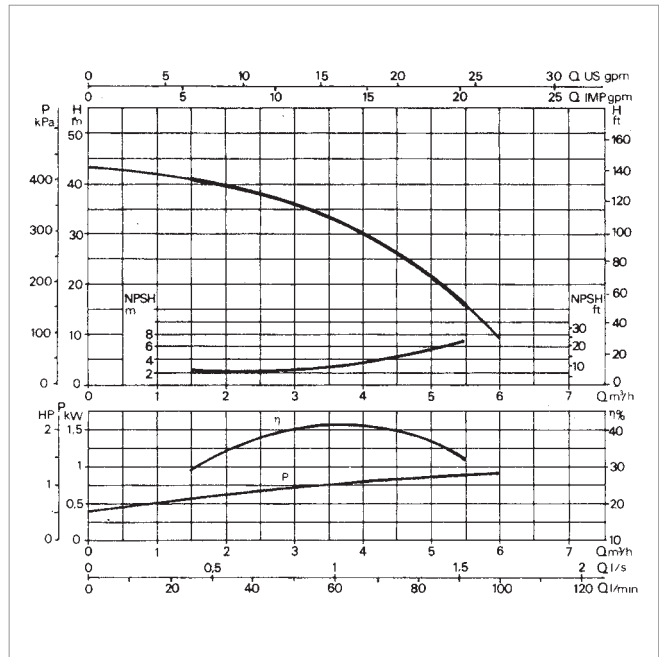
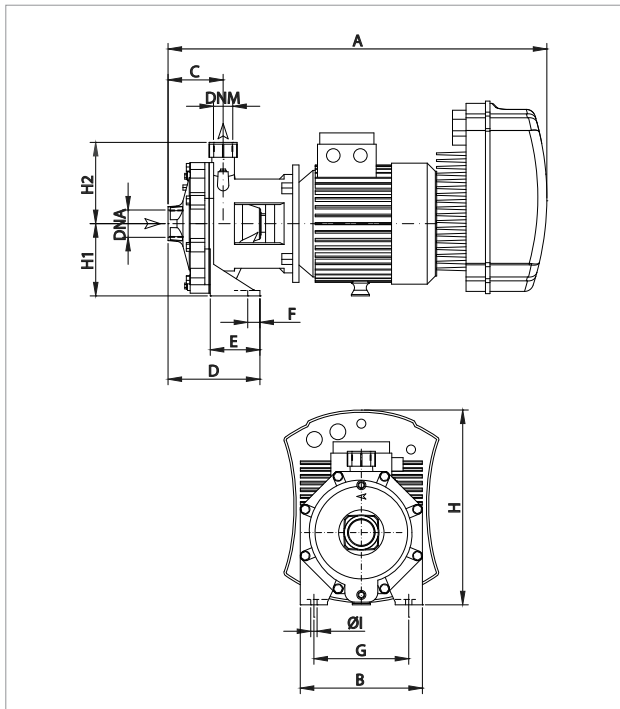


### SELECTION TABLE - KE DOUBLE-PROPELLER

MODEL	Q=m³/h	0	1,2	1,8	2,4	3,6	4,8	6	7,2	9	9,6	10,8	12	15	18	24	30	
	Q=l/min	0	20	30	40	60	80	100	120	150	160	180	200	250	300	400	500	
KE 35/40 M MCE11/P	H (m)	43,5	41,5	40	38	33	23,5											
KE 45/50 M MCE15/P		51	49	47,5	46	42	37	30										
KE 55/50 M MCE15/P		62	60	58	57	52	45	34										
KE 55/100 T MCE30/P		62			59,5	57	54,5	51	47	39	36							
KE 66/100 T MCE30/P		73			70	67,5	64	60,5	57	49	47							
KE 90/100 T MCE55/P		83,5			82	79,5	76,5	72,5	68	61	58							
KE 70/300 T MCE55/P		76						74	73	72	71,5	70	69	65	60,5	43,5		
KE 80/300 T MCE110/P		95						93	92,2	91	90,5	90	89,5	87	82	68		
KE 70/400 T MCE110/P		86								84	83,2	82,5	82	79	76	65	47	
KE 80/400 T MCE110/P		97									95	94,5	94	92	89	80	64	

# KE 35/40 - DOUBLE-IMPELLER CENTRIFUGAL ELECTRIC PUMPS WITH MCE/P INVERTER, FOR WATER SUPPLY IN DOMESTIC, CIVIL, AND INDUSTRIAL ENVIRONMENTS

Pumped liquid temperature range: from -10 °C to +50 °C - Maximum ambient temperature: +40 °C



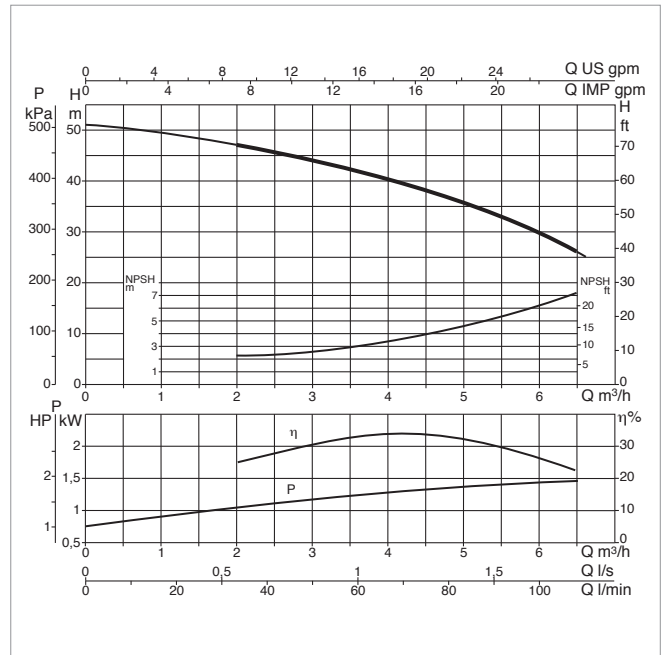
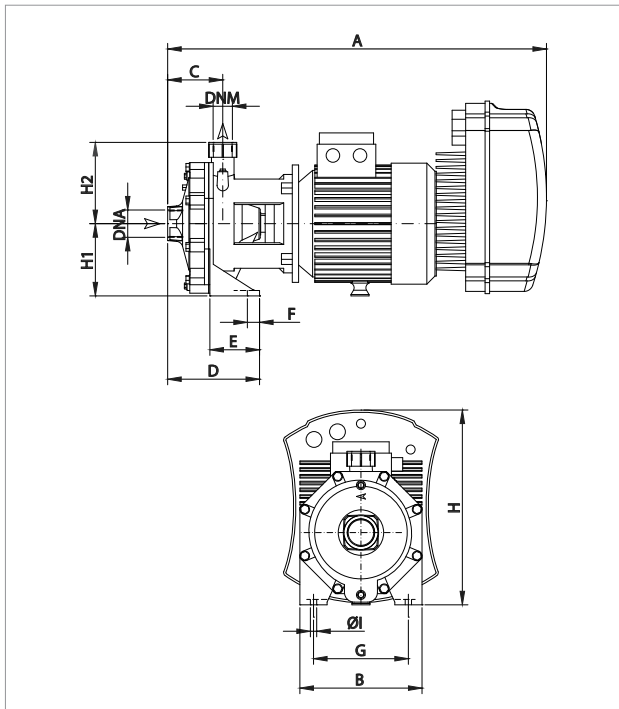
The performance curves are based on kinematic viscosity values = 1 mm<sup>2</sup>/s and density equal to 1000 kg/m<sup>3</sup>. Curve tolerance according to ISO 9906.

MODEL	ELECTRICAL DATA					
	POWER INPUT 50 Hz	P1 MAX kW	P2 NOMINAL		In A	r.p.m.
			kW	HP		
KE 35/40 M MCE11/P	1 x 230 V	1,3	0,75	1,0	10,3	2838

MODEL	A	B	C	D	E	F	G	I	H	H1	H2	DNA	DNM	PACKING DIMENSIONS			VOLUME (m <sup>3</sup> )	WEIGHT kg
														L/A	L/B	H		
KE 35/40 M MCE11/P	563	200	76	148	72	15	148	9,5	271	100	135	G 1"	G 1"	826	430	426	0,151	20,5

## KE 45/50 - DOUBLE-IMPELLER CENTRIFUGAL ELECTRIC PUMPS WITH MCE/P INVERTER, FOR WATER SUPPLY IN DOMESTIC, CIVIL, AND INDUSTRIAL ENVIRONMENTS

Pumped liquid temperature range: from -10 °C to +50 °C - Maximum ambient temperature: +40 °C



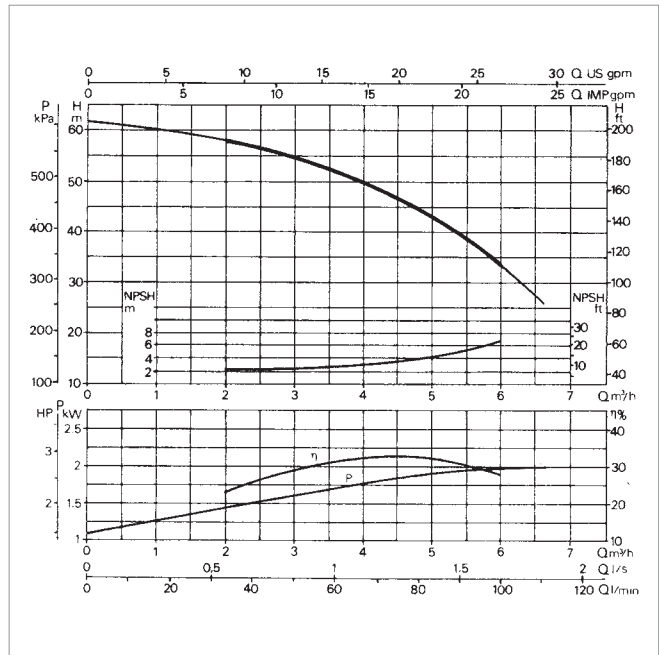
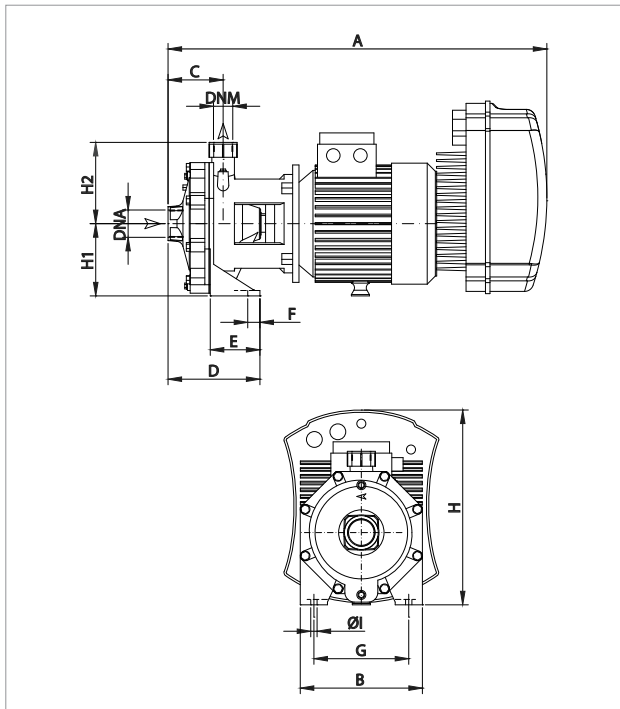
The performance curves are based on kinematic viscosity values = 1 mm<sup>2</sup>/s and density equal to 1000 kg/m<sup>3</sup>. Curve tolerance according to ISO 9906.

MODEL	ELECTRICAL DATA					
	POWER INPUT 50 Hz	P1 MAX kW	P2 NOMINAL		In A	r.p.m.
			kW	HP		
KE 45/50 M MCE15/P	1 x 230 V	2	1,6	2,2	14,7	2866

MODEL	A	B	C	D	E	F	G	I	H	H1	H2	DNA	DNM	PACKING DIMENSIONS			VOLUME (m <sup>3</sup> )	WEIGHT kg
														L/A	L/B	H		
KE 45/50 M MCE15/P	570	210	75	144	69	15	165	11,5	289	118	150	G 1" ¼	G 1"	826	430	426	0,151	27,7

# KE 55/50 - DOUBLE-IMPELLER CENTRIFUGAL ELECTRIC PUMPS WITH MCE/P INVERTER, FOR WATER SUPPLY IN DOMESTIC, CIVIL, AND INDUSTRIAL ENVIRONMENTS

Pumped liquid temperature range: from -15 °C to +80 °C - Maximum ambient temperature: +40 °C



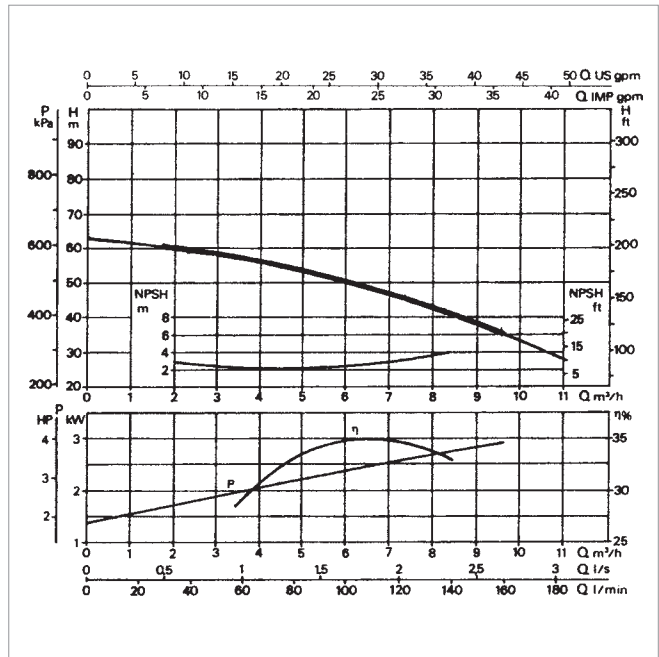
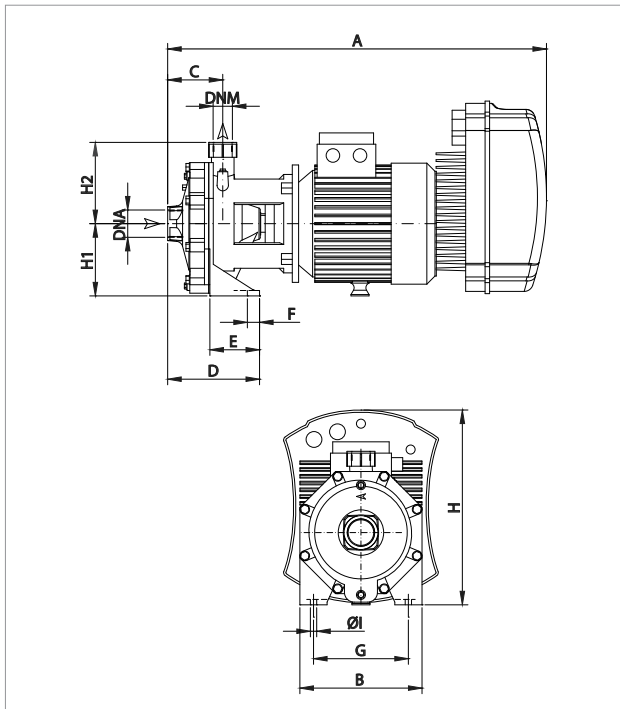
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

MODEL	ELECTRICAL DATA					
	POWER INPUT 50 Hz	P1 MAX kW	P2 NOMINAL		In A	r.p.m.
			kW	HP		
KE 55/50 M MCE15/P	1 x 230 V	2,53	1,6	2,2	18,1	2828

MODEL	A	B	C	D	E	F	G	I	H	H1	H2	DNA	DNM	PACKING DIMENSIONS			VOLUME (m³)	WEIGHT kg
														L/A	L/B	H		
KE 55/50 M MCE15/P	570	210	75	144	69	15	165	11,5	289	118	150	G 1" ¼	G 1"	826	430	426	0,151	28,2

# KE 55/100 - DOUBLE-IMPELLER CENTRIFUGAL ELECTRIC PUMPS WITH MCE/P INVERTER FOR WATER SUPPLY IN DOMESTIC, CIVIL, AND INDUSTRIAL ENVIRONMENTS

Pumped liquid temperature range: from -10 °C to +50 °C - Maximum ambient temperature: +40 °C



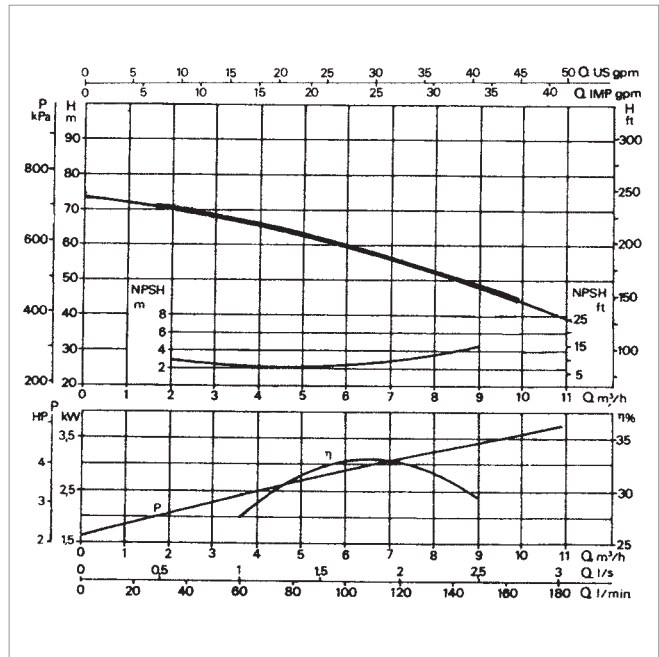
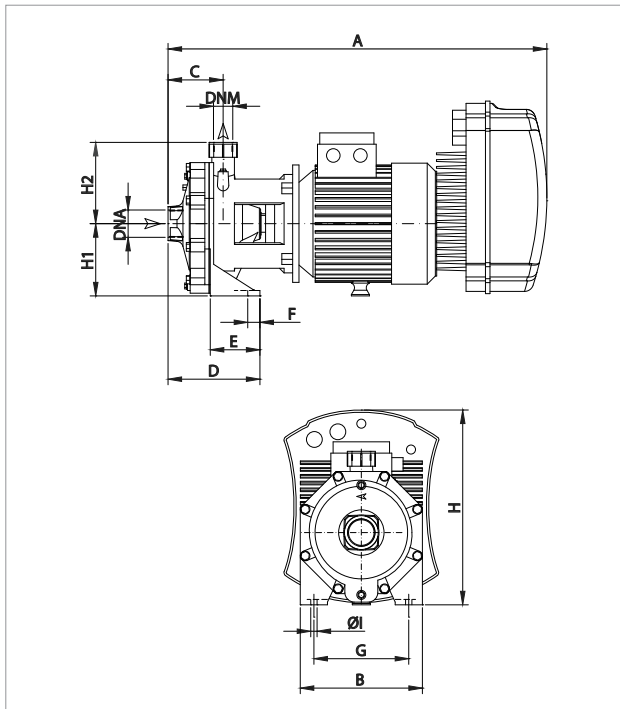
The performance curves are based on kinematic viscosity values = 1 mm<sup>2</sup>/s and density equal to 1000 kg/m<sup>3</sup>. Curve tolerance according to ISO 9906.

MODEL	ELECTRICAL DATA					
	POWER INPUT 50 Hz	P1 MAX kW	P2 NOMINAL		In A	r.p.m.
			kW	HP		
KE 55/100 T MCE30/P	3 x 400 V	3,66	2,2	3,0	8,93	2929

MODEL	A	B	C	D	E	F	G	I	H	H1	H2	DNA	DNM	PACKING DIMENSIONS			VOLUME (m <sup>3</sup> )	WEIGHT kg
														L/A	L/B	H		
KE 55/100 T MCE30/P	650	267	88	160	72	18	200	14	362	140	172,5	G 1" ½	G 1"	826	430	426	0,151	44,9

# KE 66/100 - DOUBLE-IMPELLER CENTRIFUGAL ELECTRIC PUMPS WITH MCE/P INVERTER, FOR WATER SUPPLY IN DOMESTIC, CIVIL, AND INDUSTRIAL ENVIRONMENTS

Pumped liquid temperature range: from -15 °C to +80 °C - Maximum ambient temperature: +40 °C



The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

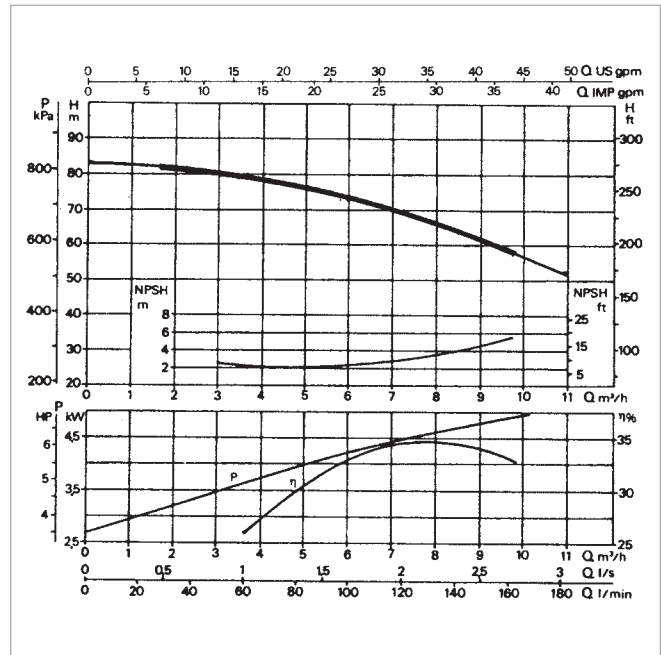
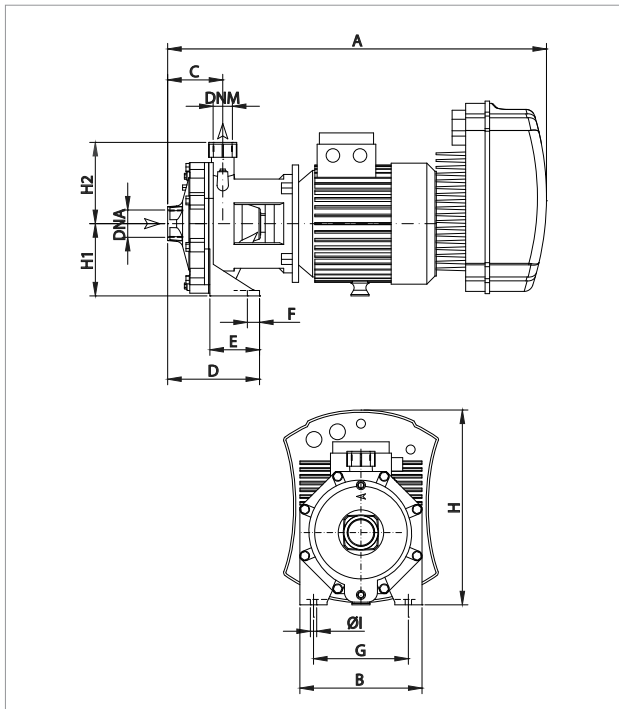
MODEL	ELECTRICAL DATA					
	POWER INPUT 50 Hz	P1 MAX kW	P2 NOMINAL		In A	r.p.m.
			kW	HP		
KE 66/100 T MCE30/P	3 x 400 V	4,32	3,0	4,0	9,64	2878

MODEL	A	B	C	D	E	F	G	I	H	H1	H2	DNA	DNM	PACKING DIMENSIONS			VOLUME (m³)	WEIGHT kg
														L/A	L/B	H		
KE 66/100 T MCE30/P	650	267	88	160	72	18	200	14	362	140	172,5	G 1" ½	G 1"	826	430	426	0,151	47,5



## KE 90/100 - DOUBLE-IMPELLER CENTRIFUGAL ELECTRIC PUMPS WITH MCE/P INVERTER, FOR WATER SUPPLY IN DOMESTIC, CIVIL, AND INDUSTRIAL ENVIRONMENTS

Pumped liquid temperature range: from -15 °C to +80 °C - Maximum ambient temperature: +40 °C



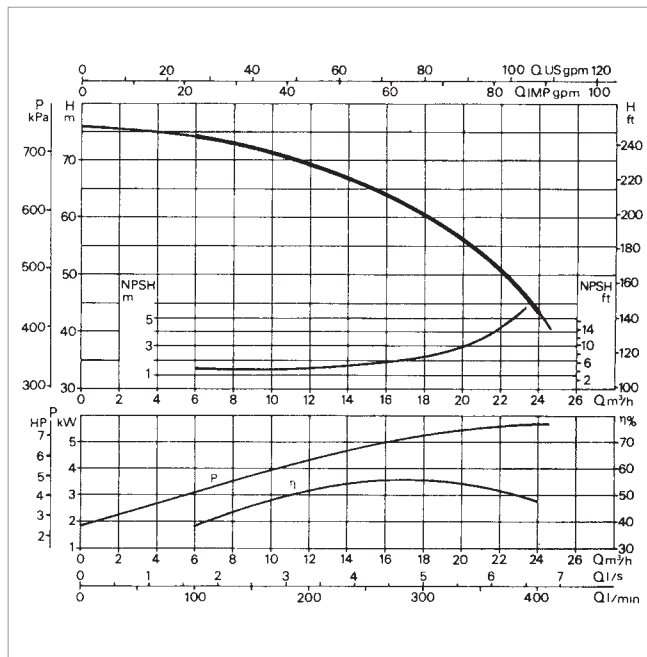
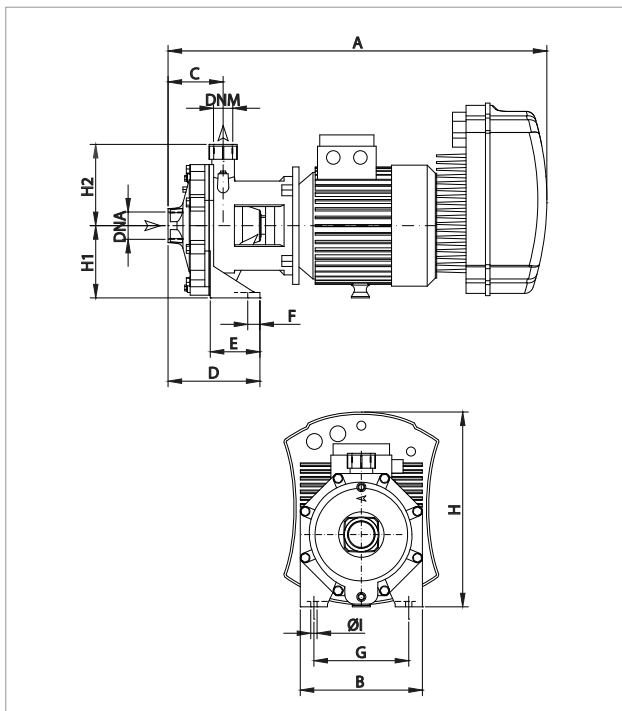
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

MODEL	ELECTRICAL DATA					
	POWER INPUT 50 Hz	P1 MAX kW	P2 NOMINAL		In A	r.p.m.
			kW	HP		
KE 90/100 T MCE55/P	3 x 400 V	5,23	3,0	4,0	10,8	2871

MODEL	A	B	C	D	E	F	G	I	H	H1	H2	DNA	DNM	PACKING DIMENSIONS			VOLUME (m³)	WEIGHT kg
														L/A	L/B	H		
KE 90/100 T MCE55/P	650	267	88	160	72	18	200	14	362	140	172,5	G 1" ½	G 1"	826	430	426	0,151	50,8

# KE 70/300 - DOUBLE-IMPELLER CENTRIFUGAL ELECTRIC PUMPS WITH MCE/P INVERTER, FOR WATER SUPPLY IN DOMESTIC, CIVIL, AND INDUSTRIAL ENVIRONMENTS

Pumped liquid temperature range: from -15 °C to +80 °C - Maximum ambient temperature: +40 °C



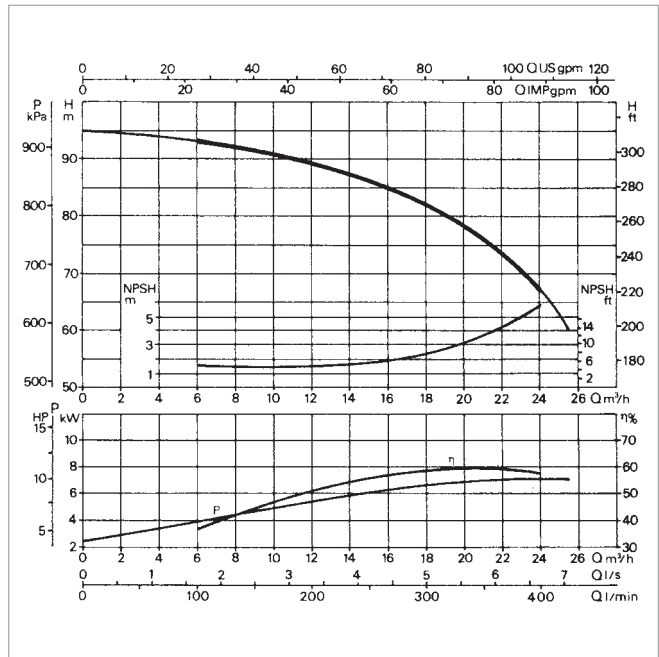
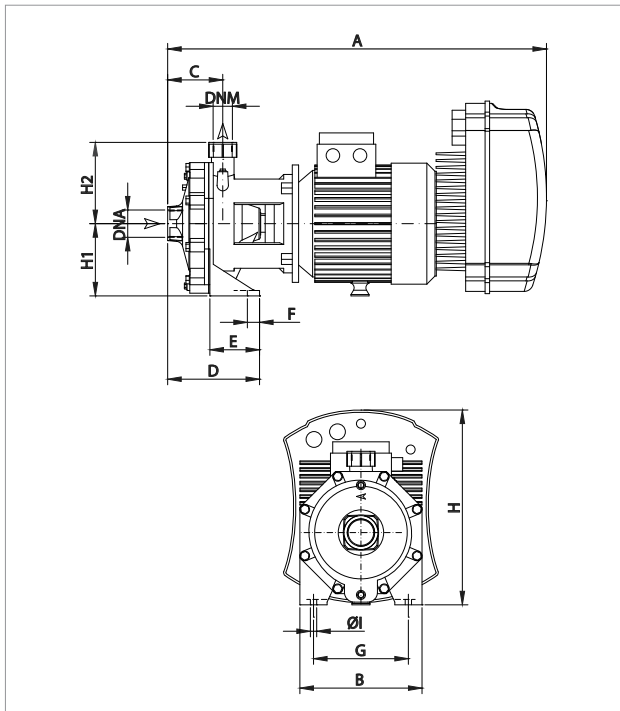
The performance curves are based on kinematic viscosity values = 1 mm<sup>2</sup>/s and density equal to 1000 kg/m<sup>3</sup>. Curve tolerance according to ISO 9906.

MODEL	ELECTRICAL DATA					
	POWER INPUT 50 Hz	P1 MAX kW	P2 NOMINAL		In A	r.p.m.
			kW	HP		
KE 70/300 T MCE55/P	3 x 400 V	6,73	5,5	7,5	14,1	2934

MODEL	A	B	C	D	E	F	G	I	H	H1	H2	DNA	DNM	PACKING DIMENSIONS			VOLUME (m <sup>3</sup> )	WEIGHT kg
														L/A	L/B	H		
KE 70/300 T MCE55/P	803	270	122	182	60	20	210	14	382	160	180	G 2"	G 1" 1/4	1026	530	546	0,297	79,8

# KE 80/300 - DOUBLE-IMPELLER CENTRIFUGAL ELECTRIC PUMPS WITH MCE/P INVERTER FOR WATER SUPPLY IN DOMESTIC, CIVIL, AND INDUSTRIAL ENVIRONMENTS

Pumped liquid temperature range: from -15 °C to +80 °C - Maximum ambient temperature: +40 °C



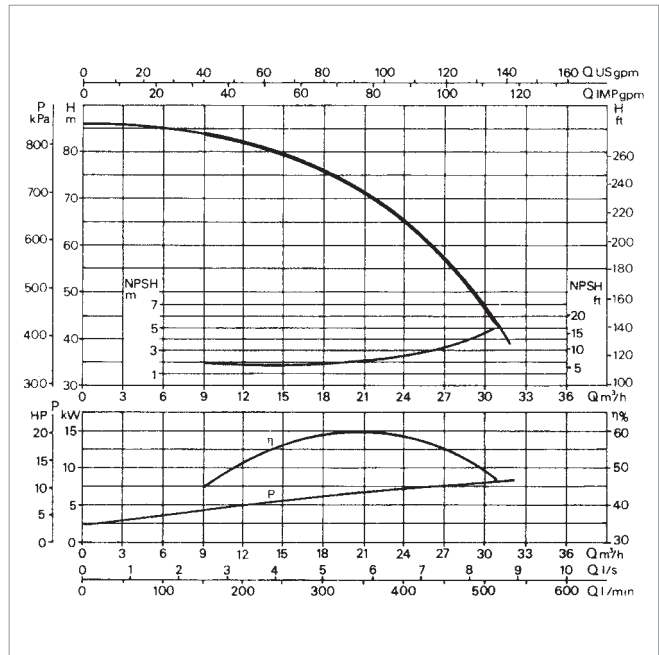
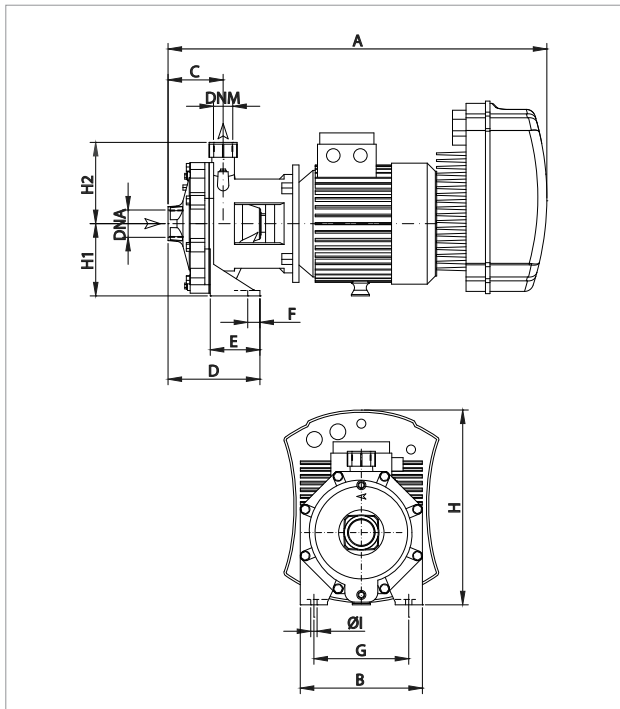
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

MODEL	ELECTRICAL DATA					
	POWER INPUT 50 Hz	P1 MAX kW	P2 NOMINAL		In A	r.p.m.
			kW	HP		
KE 80/300 T MCE110/P	3 x 400 V	9,83	7,5	10,0	19,4	2926

MODEL	A	B	C	D	E	F	G	I	H	H1	H2	DNA	DNM	PACKING DIMENSIONS			VOLUME (m³)	WEIGHT kg
														L/A	L/B	H		
KE 80/300 T MCE110/P	853	341	122	182	60	20	210	14	382	160	180	G 2"	G 1" ¼	1026	530	546	0,297	86,6

# KE 70/400 - DOUBLE-IMPELLER CENTRIFUGAL ELECTRIC PUMPS WITH MCE/P INVERTER, FOR WATER SUPPLY IN DOMESTIC, CIVIL, AND INDUSTRIAL ENVIRONMENTS

Pumped liquid temperature range: from -15 °C to +80 °C - Maximum ambient temperature: +40 °C



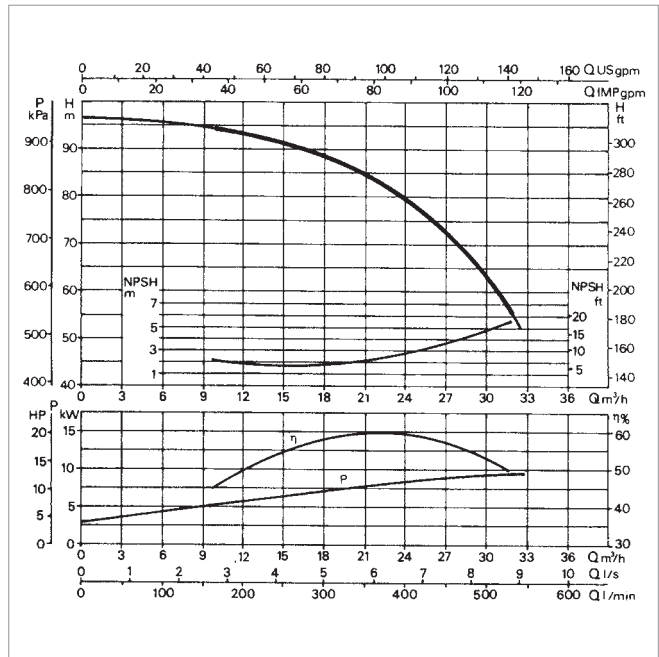
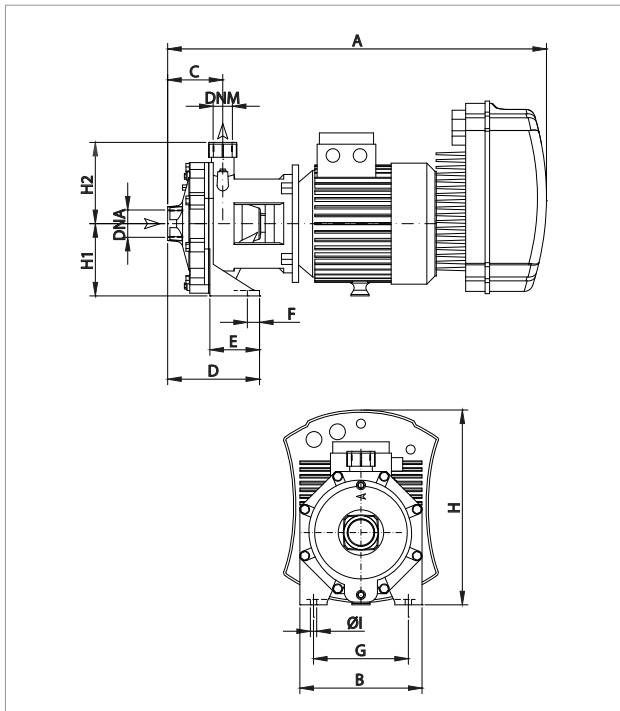
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

MODEL	ELECTRICAL DATA					
	POWER INPUT 50 Hz	P1 MAX kW	P2 NOMINAL		In A	r.p.m.
			kW	HP		
KE 70/400 T MCE110/P	3 x 400 V	9,57	9,2	12,5	20,4	2948

MODEL	A	B	C	D	E	F	G	I	H	H1	H2	DNA	DNM	PACKING DIMENSIONS			VOLUME (m³)	WEIGHT kg
														L/A	L/B	H		
KE 70/400 T MCE110/P	893	341	122	182	60	20	210	14	382	160	180	G 2"	G 1" ¼	1026	530	546	0,297	86,9

# KE 80/400 - DOUBLE-IMPELLER CENTRIFUGAL ELECTRIC PUMPS WITH MCE/P INVERTER, FOR WATER SUPPLY IN DOMESTIC, CIVIL, AND INDUSTRIAL ENVIRONMENTS

Pumped liquid temperature range: from -15 °C to +80 °C - Maximum ambient temperature: +40 °C



The performance curves are based on kinematic viscosity values = 1 mm<sup>2</sup>/s and density equal to 1000 kg/m<sup>3</sup>. Curve tolerance according to ISO 9906.

MODEL	ELECTRICAL DATA					
	POWER INPUT 50 Hz	P1 MAX kW	P2 NOMINAL		In A	r.p.m.
			kW	HP		
KE 80/400 T MCE110/P	3 x 400 V	11,2	11,0	15,0	22,7	2953

MODEL	A	B	C	D	E	F	G	I	H	H1	H2	DNA	DNM	PACKING DIMENSIONS			VOLUME (m <sup>3</sup> )	WEIGHT kg
														L/A	L/B	H		
KE 80/400 T MCE110/P	893	341	122	182	60	20	210	14	382	160	180	G 2"	G 1" ¼	1026	530	546	0,297	90,9