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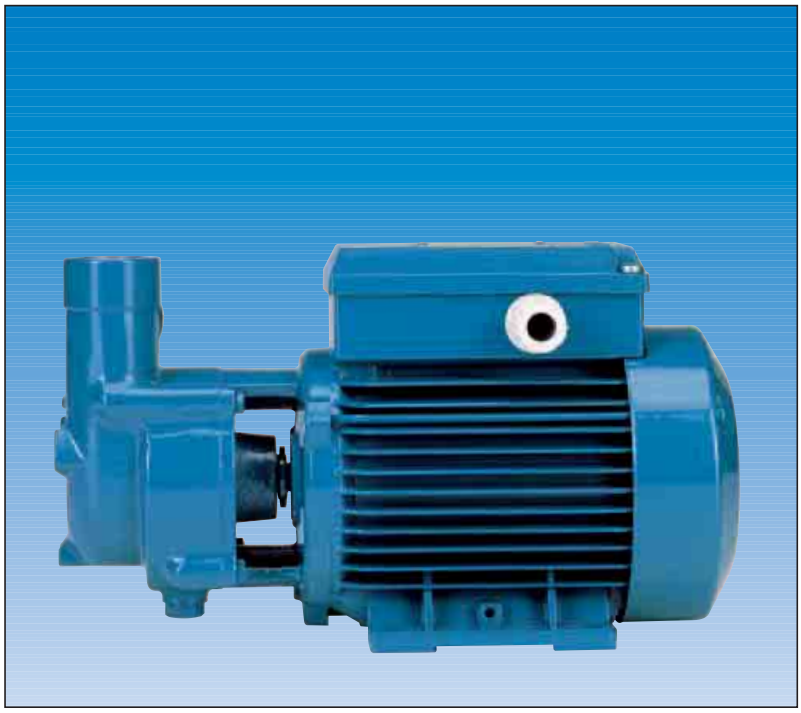
CA

Self-Priming Liquid Ring Pumps



Construction

Close-coupled self-priming liquid ring pumps with star impeller.

Applications

For clean liquids without abrasives, without suspended solids, non-explosive, non-aggressive for the pump materials.
If the liquid to be pumped has entrained air or gas or the flow in the suction pipe is not stable.
For drawing water out of a well.
For increasing network pressure (follow local specifications).

Operating conditions

Liquid temperature from -10 °C to +90 °C.
Ambient temperature up to 40 °C.
Negative suction pressure up to 9 m.
Continuous duty.

Motor

2-pole induction motor, 50 Hz (n = 2900 rpm).

CA: three-phase 230/400 V ± 10%.

CAM: single-phase 230 V ± 10%, with thermal protector. Capacitor inside the terminal box.

Insulation class F.
Protection IP 54.
Constructed in accordance with IEC 60034.

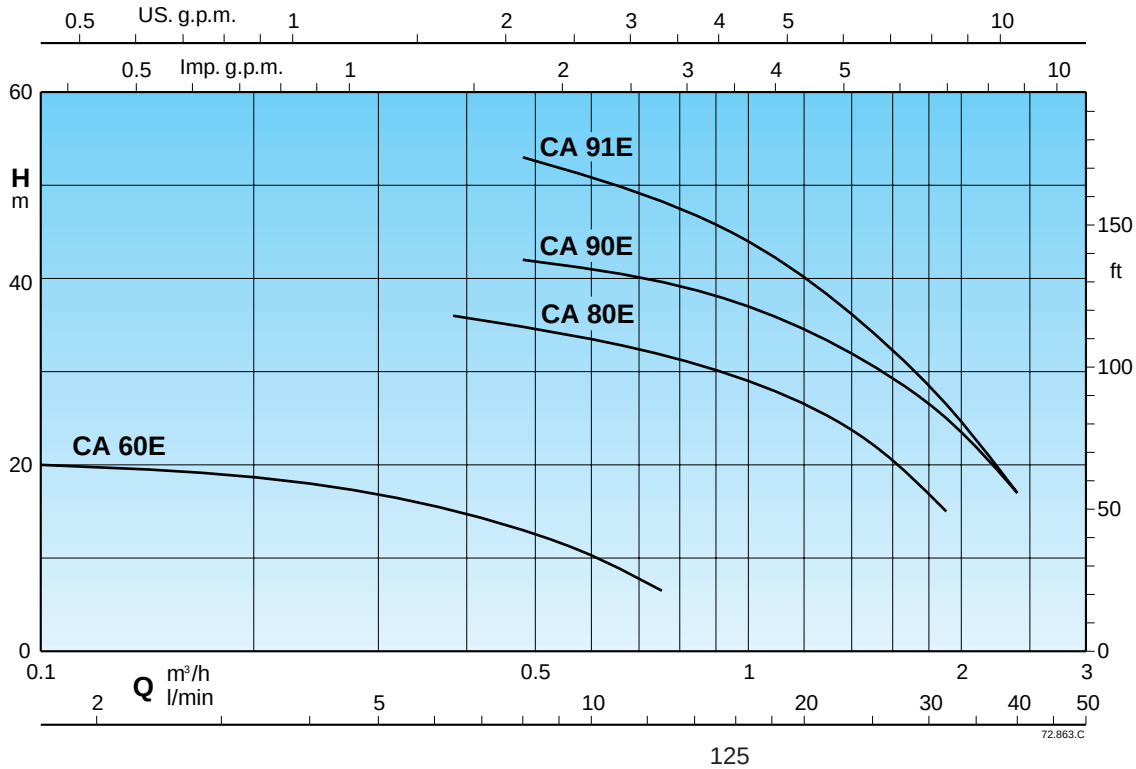
Materials

Components	CA	B-CA
Pump casing Lantern bracket	Cast iron GJL 200 EN 1561	Bronze G-Cu Sn 10 EN 1982
Impeller	Brass P- Cu Zn Pb 2 UNI 5705	
Shaft	Chrome steel 1.4104 EN 10088 AISI 430	Cr-Ni-Mo steel 1.4401 EN 10088 AISI 316
Mechanical seal	Carbon - Ceramic - NBR	

Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Protection IP 55.
- Special mechanical seal
- Higher or lower liquid or ambient temperatures.

Coverage chart n ≈ 2900 rpm



CA

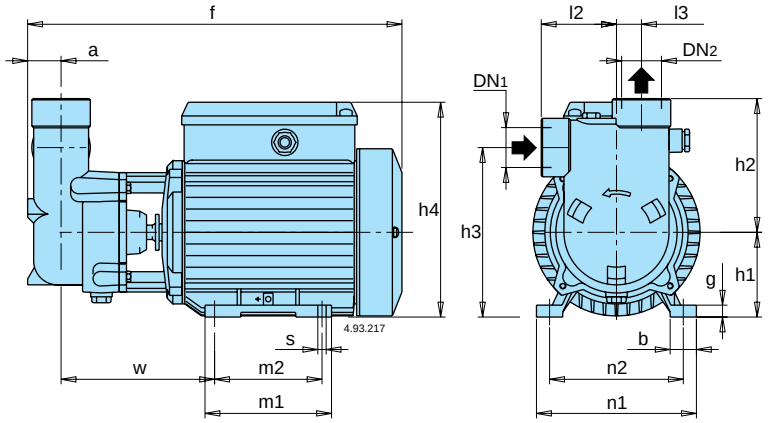
Self-Priming Liquid Ring Pumps

Performance n ≈ 2900 rpm

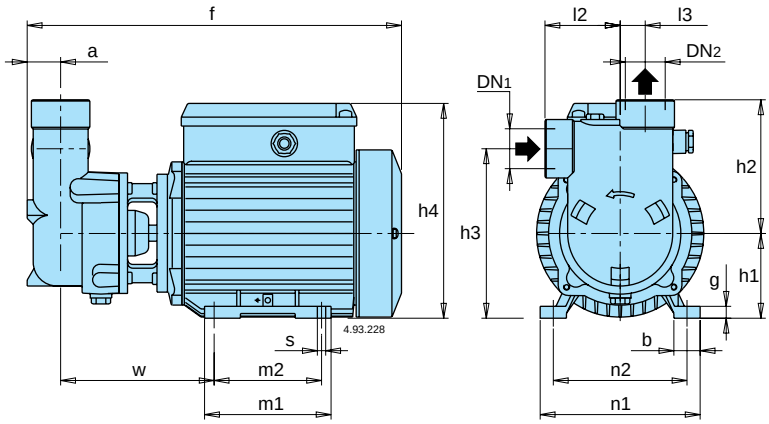
3 ~	230 V	400 V	1 ~	230 V	P_1	P_2		**Q** m^3/h	0,12	0,24	0,38	0,48	0,6	0,75	1	1,2	1,5	1,89	2,4
	A	A		A	kW	kW	HP	l/min	2	4	6,3	8	10	12,5	16	20	25	31,5	40
CA 60E B-CA 60E	1,7	1	**CAM 60E** B-CAM 60E	1,6	0,26	0,15	0,2		20	18	15,5	13	10,5	6,5					
CA 80E B-CA 80E	2,8 2,3	1,6 1,3	**CAM 80E** B-CAM 80E	3,3 3,6	0,72	0,45	0,6	**H** m			36	35	33,5	31,5	29	26	22	15	
CA 90E B-CA 90E	3	1,7	**CAM 90E** B-CAM 90E	4,5	0,9	0,55	0,75					42	41	40	37	34	30	25	17
CA 91E B-CA 91E	3,7	2,2	**CAM 91E** B-CAM 91E	5,7	1,2	0,75	1					53	51	48	44	39	34	26,5	17

P_1 Maximum power input. P_2 Rated motor power output. B-CA = Bronze construction. **H** Total head in m.

Dimensions and weights

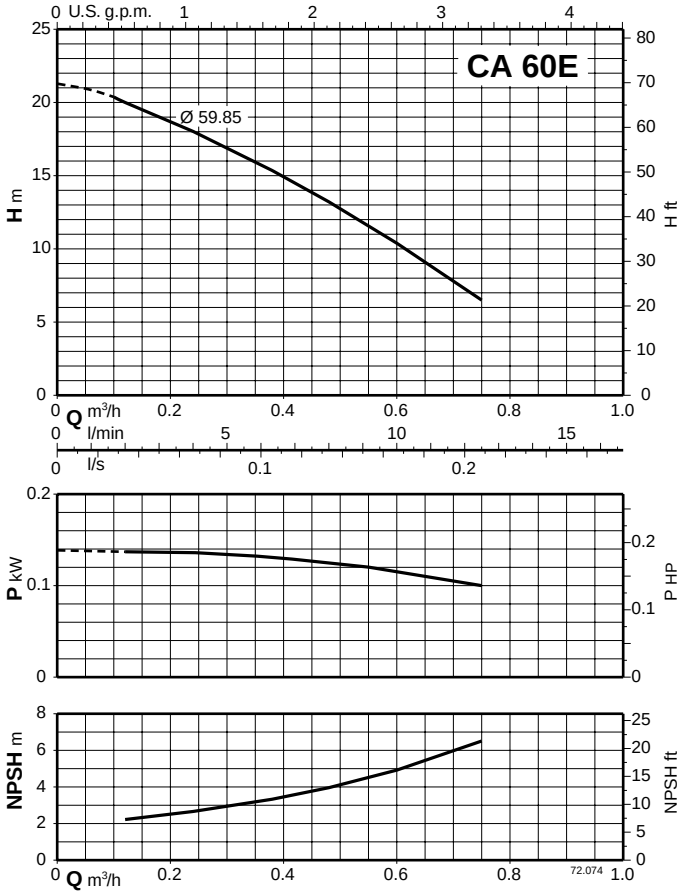


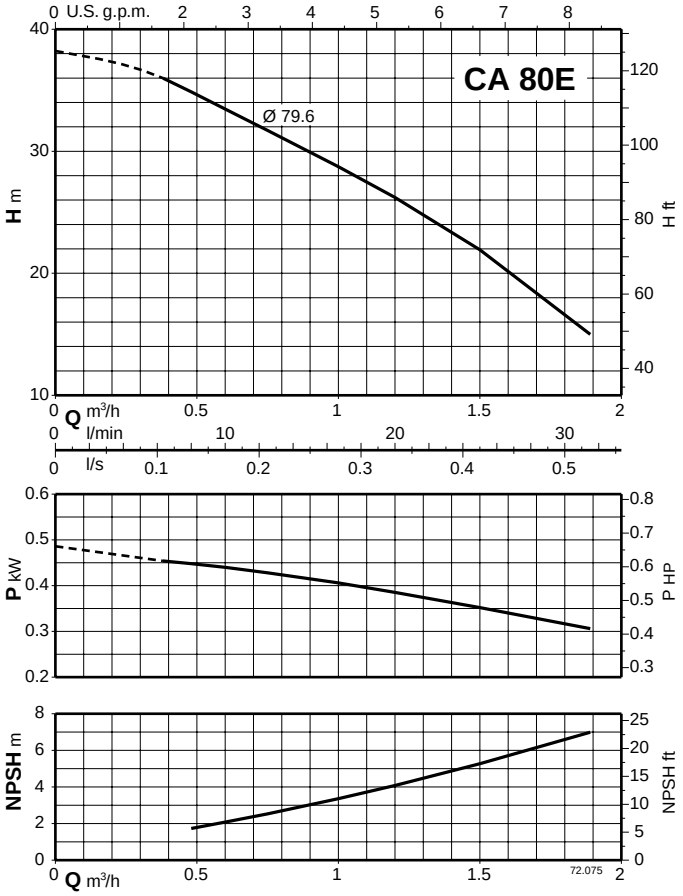
TYPE	DN1	DN2	mm																kg	
	ISO 228		a	f	h1	h2	h3	h4	m1	m2	n1	n2	b	s	l2	l3	w	g	**CA**	**B-CA**
CA 60E - B-CA 60E	G 1/2	G 1/2	18	256	63	65	103	158	96	80	122	100	22	7	45	14	103	8	6	6,8
CA 80E	G 3/4	G 3/4	23	272	63	90	126	158	96	80	122	100	22	7	55	17	109	8	7,6	-
CA 90E	G 1	G 1	28	318	71	112	142	180	106	90	134	112	22	7	63	21	128	10	10,8	-
CA 91E																			11,4	-

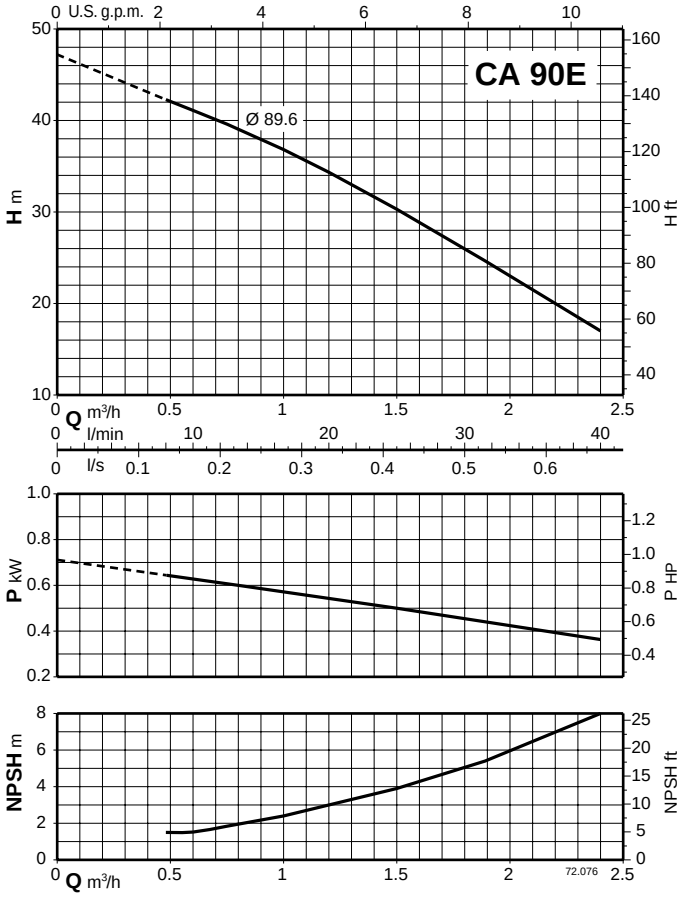


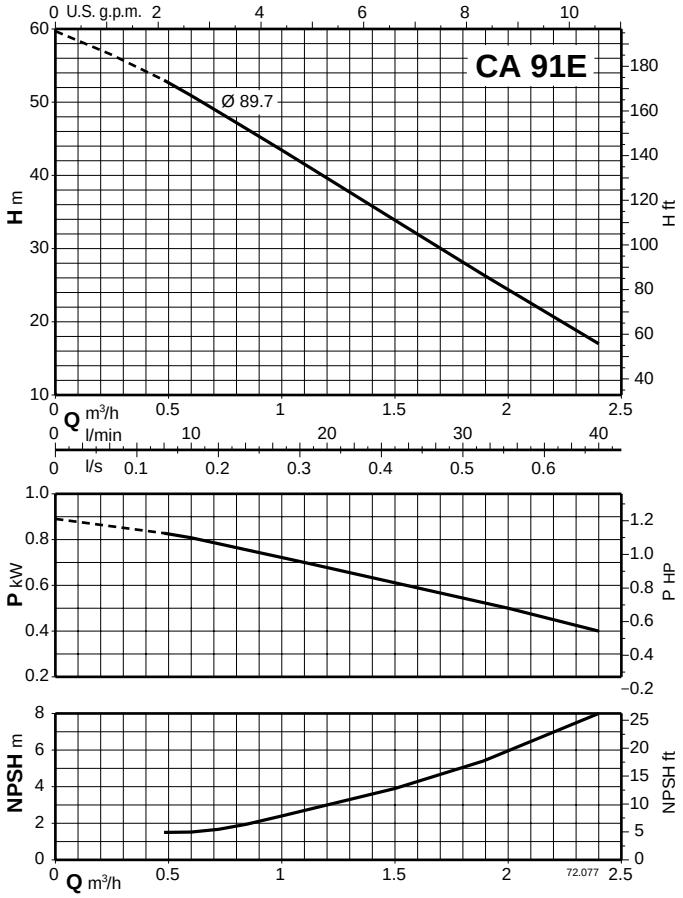
TYPE	DN1	DN2	mm																kg
	ISO 228		a	f	h1	h2	h3	h4	m1	m2	n1	n2	b	s	l2	l3	w	g	**B-CA**
B-CA 80E	G 3/4	G 3/4	23	307	71	90	134	180	106	90	134	112	22	7	55	17	122	10	10
B-CA 90E	G 1	G 1	28	318	71	112	142	180	106	90	134	112	22	7	63	21	128	10	13,1
B-CA 91E																			13,9

Characteristic curves $n \approx 2900$ rpm



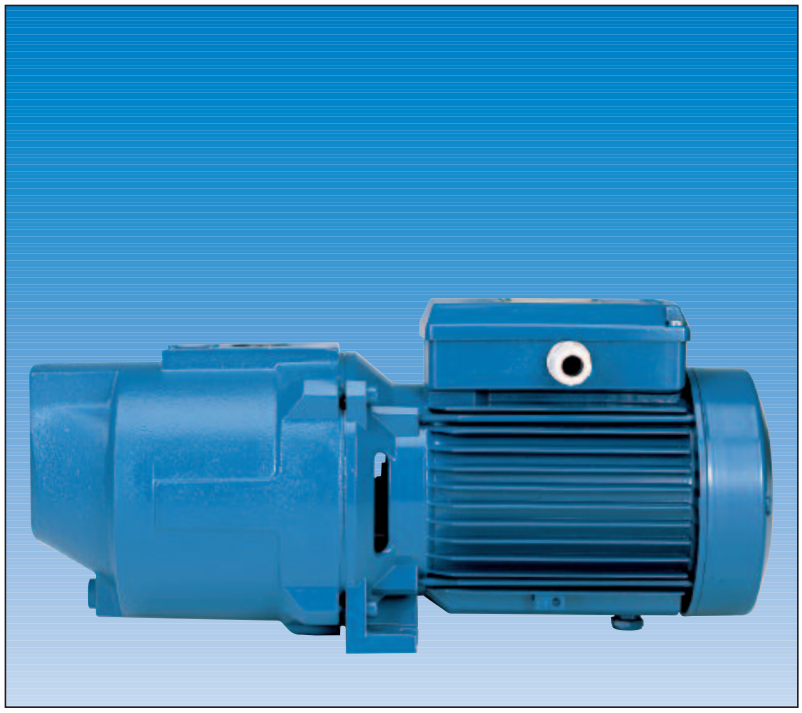






NGC
Compact Jet

Self-Priming Jet Pumps



Construction
Close-coupled self-priming shallow well jet pumps with built-in ejector.

Applications
For drawing water out of a well.
As pressure boosting pump for central water systems with low pressure (follow local specifications if increasing network pressure).
For clean liquids or slightly dirty surface water.
For garden use.
For washing with a jet of water.

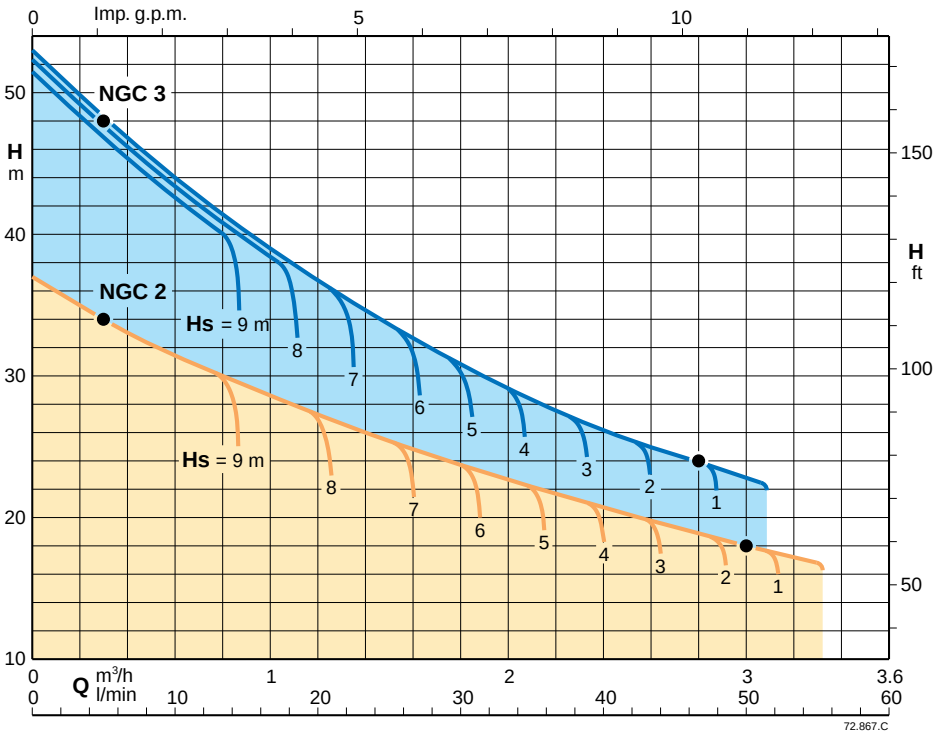
Operating conditions
Liquid temperature up to 35 °C.
Ambient temperature up to 40 °C.
Total suction lift up to 9 m.
Maximum permissible working pressure up to 8 bar.
Continuous duty.

Materials

Components	Material
Pump casing	Cast iron GJL 200 EN 1561
Casing cover	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Impeller	Brass P-Cu Zn 40 Pb 2 UNI 5705
Wear ring	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Diffuser	PPO-GF30 (Noryl)
Ejector	PPO-GF30 (Noryl)
Shaft	Chrome steel 1.4104 EN 10088 (AISI 430)
Mechanical seal	Carbon - Ceramic - NBR

Motor
2-pole induction motor, 50 Hz (n = 2800 rpm).
NGC: three-phase 230/400 V ± 10%.
NGCM: single-phase 230 V ± 10%, with thermal protector.
Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
Constructed in accordance with: EN 60335-2-41.

Characteristic Curves *for different suction lifts Hs* ***n ≈ 2800 rpm***



● Data on name-plate

NGC
Compact Jet

Self-Priming Jet Pumps

Performance n ≈ 2800 rpm

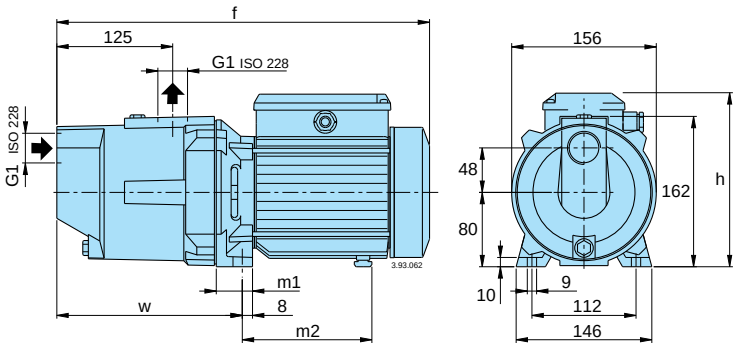
TYPE	3~ 230V A	3~ 400V A	1~ 230V A	P1 kW	P2 kW	P2 HP	Q m³/h	0	0,25	0,5	0,75	1,0	1,25	1,5	1,75	2,0	2,25	2,5	2,75	3,0	3,25
							Q l/min	0	4,1	8,3	12,5	16,6	20,8	25	29,1	33,3	37,5	41,6	45,8	50	54,1
							H_S m	9	9	9	8	7	7	6	5	4	3	2	1	0	
NGC 2E	2,8	1,6	-	0,73	0,45	0,6	H m	37	34	32	30	28	27	25	24	22	21	20	19	18	17
NGCM 2E	-	-	3,3																		

TYPE	3~ 230V A	3~ 400V A	1~ 230V A	P1 kW	P2 kW	P2 HP	Q m³/h	0	0,25	0,5	0,75	1,0	1,25	1,5	1,75	2,0	2,25	2,5	2,75	3,0	
							Q l/min	0	4,1	8,3	12,5	16,6	20,8	25	29,1	33,3	37,5	41,6	45,8	50	
							H_S m	9	9	9	8	7	6	5	4	3	2	1	0		
NGC 3E	2,8	1,6	-	0,9	0,55	0,75	H m	53	49	45	42	39	36	33	31	29	27	25	24	22	
NGCM 3E	-	-	4,2																		

H_S: Maximum suction lift for the different capacities **Q**. P1 Max. power input. P2 Rated motor power output. Tolerances according to ISO 9906, annex A.

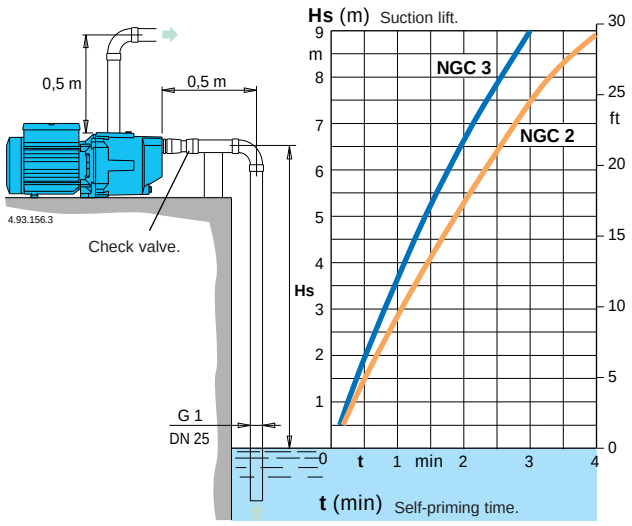
H: The head is the sum of the suction lift + delivery head + head losses in the suction and delivery pipelines.

Dimensions and weights



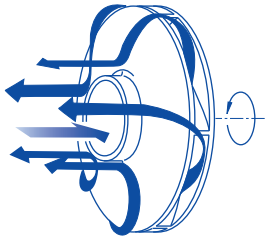
TYPE	mm f	m1	m2	h	w	kg NGC	NGCM
NGC 2E NGCM 2E	372	34	122	175	200	10,6	10,7
NGC 3E NGCM 3E	404	39	134	188	205	12	13

Self-priming capability

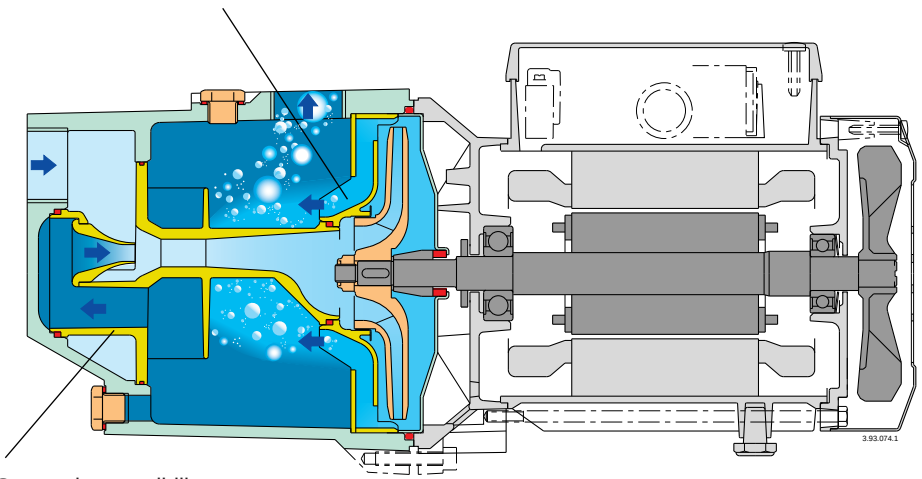


Features

Diffuser with axial flow = fast self-priming up to a suction lift of 9 m.



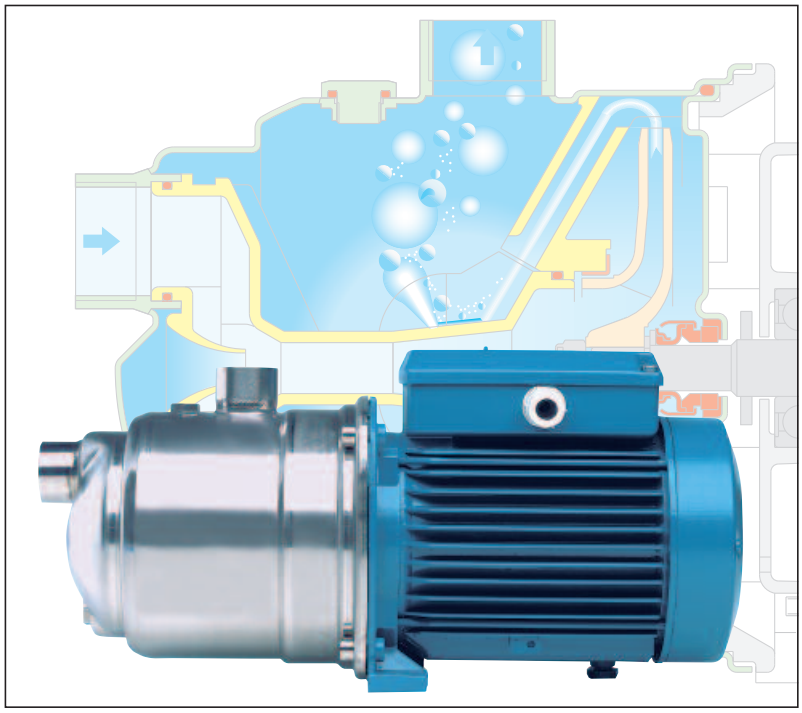
Patented



Ejector without closed chambers = total accessibility.

NGX

Self-Priming Jet Pumps



Construction

Close-coupled self-priming shallow-well jet pump with built-in ejector.
A high-quality pump for domestic water supply. Designed with environmental considerations, featuring a stainless steel casing, brass alloy impeller with minimal use of plastic materials.

Applications

For drawing water out of a well.
For lifting water containing air or other gases.
For increasing water pressure from flooded suction applications.
As pressure boosting pump for central water systems with low pressure (follow local specifications if increasing network pressure).
For garden use.
For washing with a jet of water.

Operating conditions

Liquid temperature: 0 °C to +35 °C.
Ambient temperature up to +40 °C.
Suction lift up to 9 m.
Maximum permissible pressure in the pump casing: 8 bar.
Continuous duty.

Materials

Component	Material
Pump casing	Cr-Ni steel 1.4301 EN 10088 (AISI 304)
Casing cover	Cr-Ni steel 1.4301 EN 10088 (AISI 304)
Impeller	Brass P-Cu Zn 40 Pb 2 UNI 5705
Wear ring impeller-diffuser	Cr-Ni steel 1.4301 EN 10088 (AISI 304)
Diffuser Ejector	PPO-GF20 (Noryl) PPO-GF20 (Noryl)
Shaft	Chrome steel 1.4104 EN 10088 (AISI 430) Cr-Ni steel 1.4305 EN 10088 (AISI 303) for NGX 5,6
Mechanical seal	Carbon - Ceramic - NBR

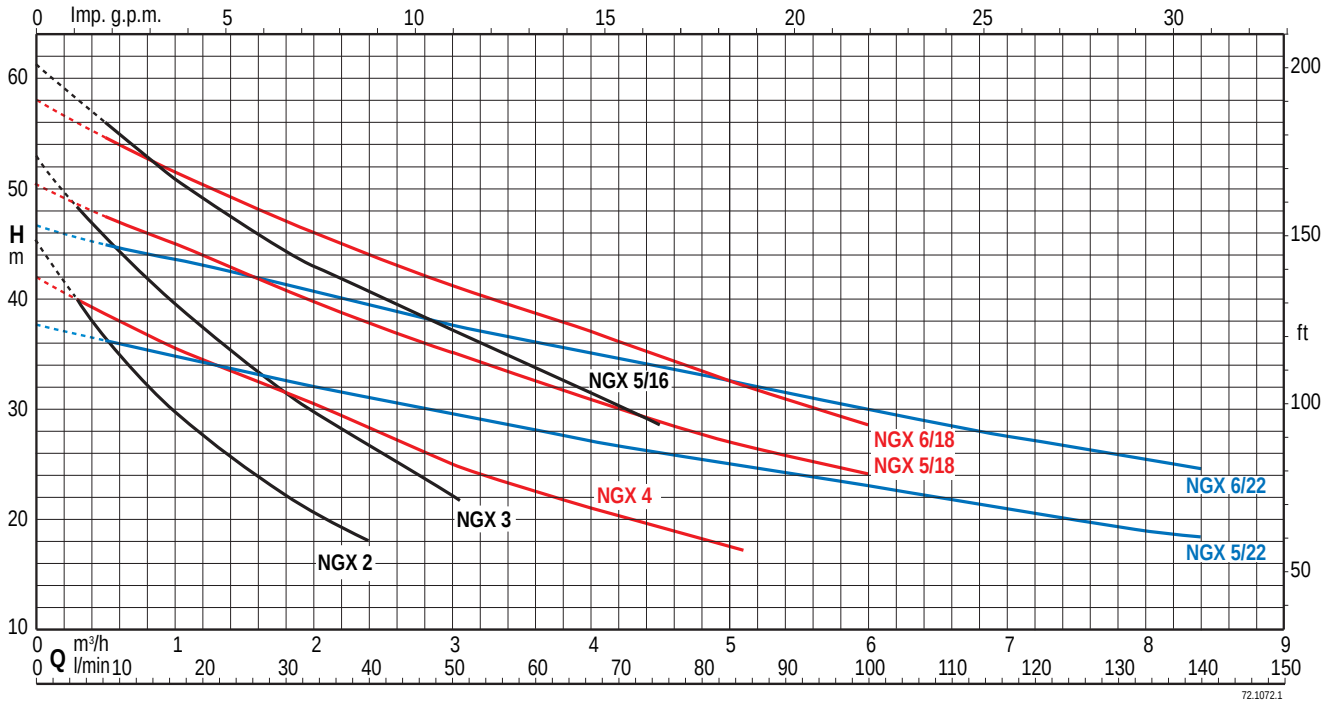
Motor

2-pole induction motor, 50 Hz (n = 2800 1/min).

NGX: three-phase 230/400 V ± 10%.
NGXM: single-phase 230 V ± 10%, with thermal protector. Capacitor inside the terminal box.

Insulation class F.
Protection IP 54.
Constructed in accordance with: EN 60335-2-41.

Characteristic curves n ≈ 2800 rpm



NGX

Self-Priming Jet Pumps

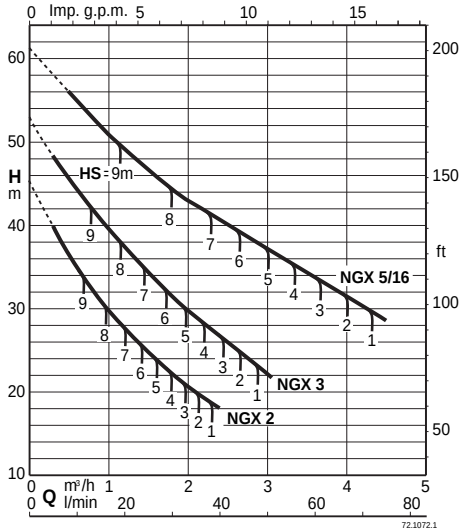
Technical data *n ≈ 2800 rpm*

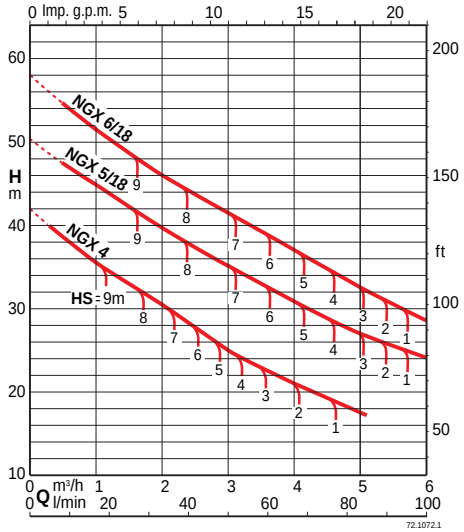
3~	230V A	400V A	1~	230V A	P1 kW	P2 kW	P2 HP	Q m³/h	0	0,3	1	2	2,4	3	4	4,5	5	5,5	6	6,5	7	8	8,4
								Q l/min	0	5	16,6	33,3	40	50	66,6	75	83,3	91,6	100	108	116	133	140
NGX 2	2,8	1,6	**NGXM 2**	3,3	0,7	0,45	0,6	H m	45	40	30	20,5	18										
NGX 3	2,8	1,6	**NGXM 3**	4,2	0,9	0,55	0,75	H m	53	48	39	30	27	22									
NGX 4	3,5	2	**NGXM 4**	5,4	1	0,75	1	H m	42	40	36	31	28	25	21	19,5	18						

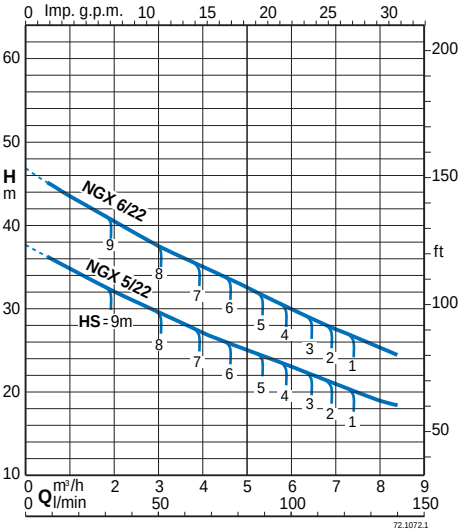
3~	230V A	400V A	1~	230V A	P1 kW	P2 kW	P2 HP	Q m³/h	0	0,5	1	2	2,4	3	4	4,5	5	5,5	6	6,5	7	8	8,4
								Q l/min	0	8,3	16,6	33,3	40	50	66,6	75	83,3	91,6	100	108	116	133	140
NGX 5/16	5	2,9	**NGXM 5/16**	7,4	1,6	1,1	1,5	H m	61	55,5	51	43	40,5	36,8	31,7	28,5							
NGX 5/18	5	2,9	**NGXM 5/18**	7,4	1,6	1,1	1,5	H m	50,5	47,5	45	39,5	37,7	35	30,8	29	27	25,5	24				
NGX 5/22	5	2,9	**NGXM 5/22**	7,4	1,6	1,1	1,5	H m	37,5	36	34,7	32	31	29,5	27	26	24,8	23,7	22,8	22	21	19	18,3
NGX 6/18	7,5	4,3	**NGXM 6/18**	9,2	2	1,5	2	H m	58	54,7	51,5	46	44	41,3	37	34,7	32,5	30,5	28,5				
NGX 6/22	7,5	4,3	**NGXM 6/22**	9,2	2	1,5	2	H m	46,5	45	43,5	40,5	39,3	37,5	35	33,5	32,5	31,2	30	28,5	27,5	25,5	24,5

P1 Max. power input. P2 Rated motor power output. Tolerances according to ISO 9906, annex A.

Characteristic Curves for different suction lifts **Hs**

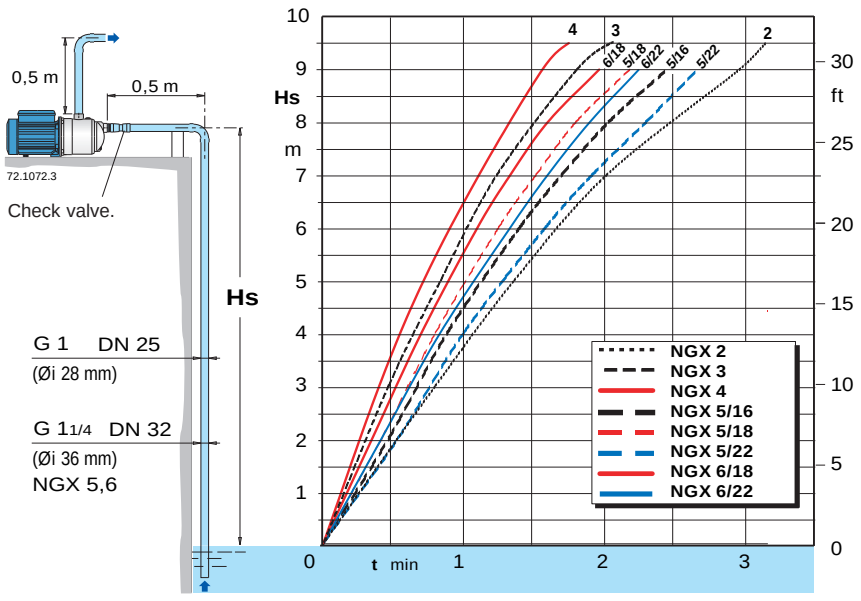






Self-priming capability

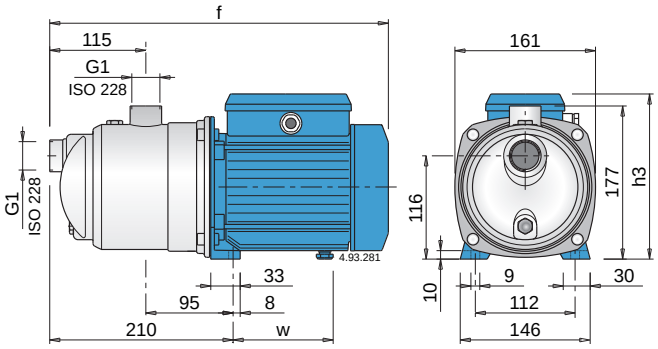
50 Hz (n ≈ 2800 1/min), H2O, T = 20°C, Pa = 1000 hPa (mbar)



Hs (m) Suction lift.
t (min) Self-priming time.

Dimensions and weights

NGX 2,3,4



TYPE	Dimensions mm			Net weight kg	
	f	h3	w	NGX	NGXM
NGX 2	362	176	102	7,5	7,5
NGX 3	391	188	112	8,7	9,6
NGX 4	391	188	112	9,6	10,6

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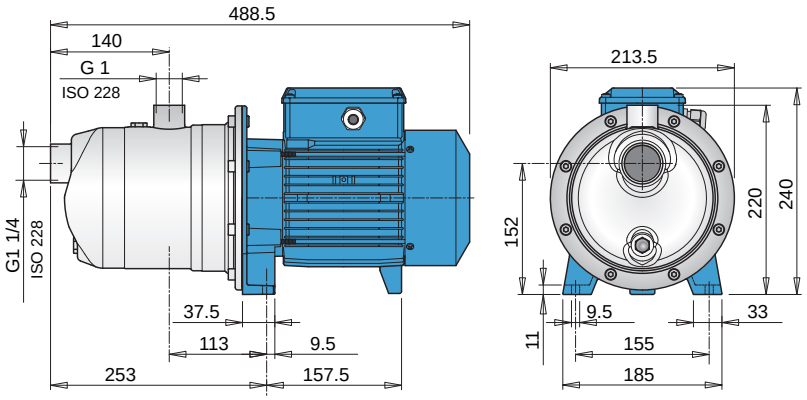
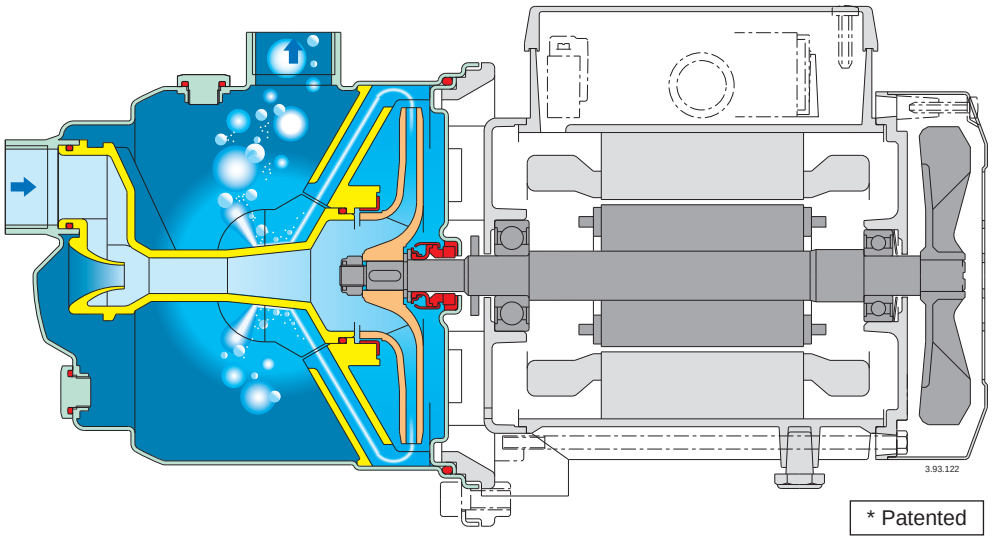
NGX 5-6



TYPE	Net weight kg	
	NGX	NGXM
NGX 5	15,2	16,7
NGX 6	17,8	18,2

NGX Self-Priming Jet Pumps

Features



* Patented

A different jet pump with new features

Not just another jet pump.
An exclusive diffuser design with flow control device* provides for compact construction, fast self-priming capability and low noise.

Reliable

With new design features the NGX is more robust and forgiving when temporary abnormal operating conditions may exist.

Compact

The NGX is smaller than conventional pumps of a similar type, allowing for installation in restricted spaces and providing for easier retrofit applications.

Safe

Fast air evacuation reduces the risk of air-pockets developing at the mechanical seal preventing the danger of seal failure due to a lack of flushing and cooling.

Better self-priming

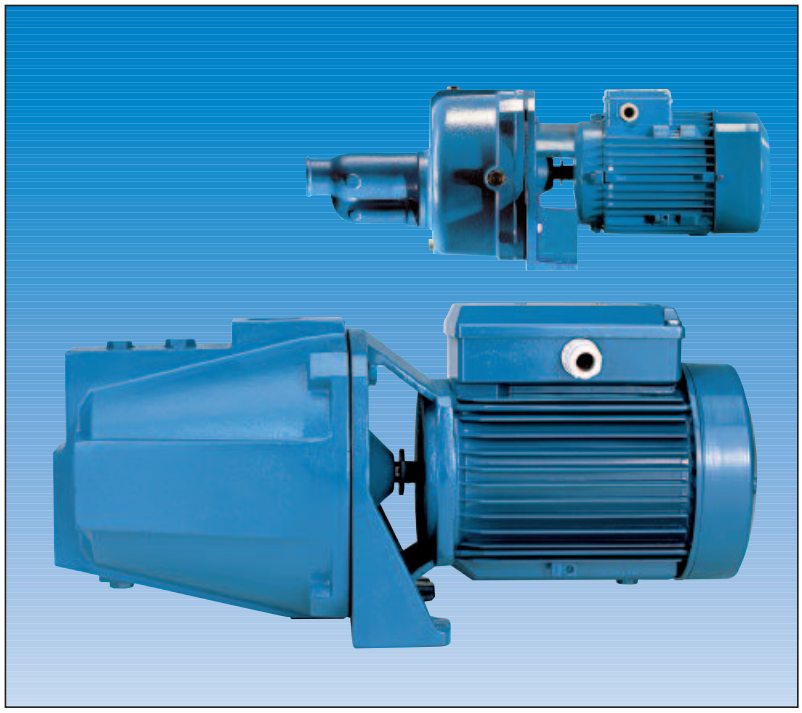
The NGX are capable of lifting water from depths of 9 m in less than 3 minutes, offers new possibilities on suction lift applications and provides better trouble free service on normal shallow-well suction lift duties, also with a long suction pipe above the water level.

Low noise

The new diffuser and flow control device* guide the fluid from the impeller into the central part of the pump casing, reducing turbulence and velocity, with effective use of the surrounding liquid in dampening the noise of flow.

NG

Self-Priming Jet Pumps



Construction

Close-coupled self-priming shallow well jet pumps with built-in ejector.

Applications

For drawing water out of a well.
As pressure boosting pump for central water systems with low pressure (follow local specifications if increasing network pressure).
For clean liquids or slightly dirty surface water.
For garden use.
For washing with a jet of water.

Operating conditions

Liquid temperature up to 40 °C.
Ambient temperature up to 40 °C.
Maximum permissible working pressure up to 10 bar.
Continuous duty.

Motor

2-pole induction motor, 50 Hz (n = 2900 rpm).
NG: three-phase 230/400 V ± 10%.
NGM: single-phase 230 V ± 10%, with thermal protector. Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
Constructed in accordance with: EN 60335-2-41.

Materials

Components	NG	B-NG
Pump casing Cover with lantern bracket Diffuser plate	Cast iron GJL 200 EN 1561	Bronze G-Cu Sn 10 EN 1982
Impeller	Brass P- Cu Zn 40 Pb 2 UNI 5705	
Shaft	Cr steel 1.4104 EN 10088 (AISI 430) for NG 3-4	Cr-Ni-Mo steel 1.4401 EN 10088 AISI 316
	Cr-Ni steel 1.4305 EN 10088 (AISI 303) for NG 5-6-7-32	
Ejector casing NG 32	Cast iron GJL 200 EN 1561	-
Diffuser	Polycarbonate	
Nozzle	Polycarbonate (Brass P- Cu Zn 40 Pb 2 UNI 5705 for NG 32)	
Mechanical seal	Carbon - Ceramic - NBR	

Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Protection IP 55.
- Special mechanical seal

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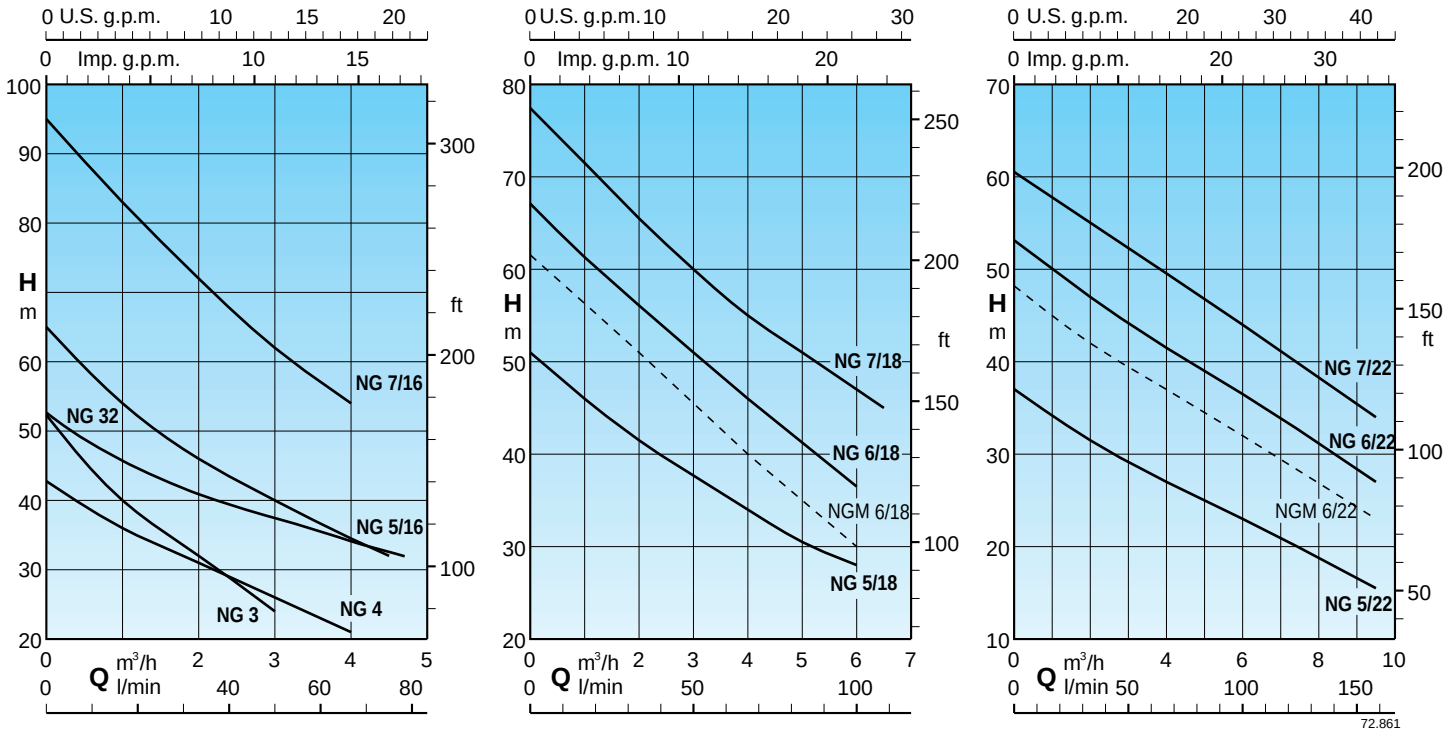
Characteristic Curves *for suction lift Hs = 1 m* *n ≈ 2900 rpm*



NG

Self-Priming Jet Pumps

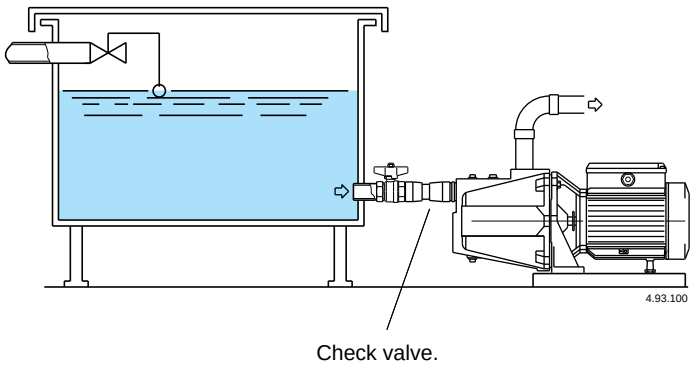
Performance *for suction lift Hs = 1 m* ***n ≈ 2900 rpm***

3 ~	230V	400V	1 ~	230V	P_1	P_2		Q m^3/h	0,25	0,5	1	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6	6,5	7	8	9	9,5
	A	A		A	kW	kW	HP	l/min	4,1	8,3	16,6	25	33,3	41,6	50	58,3	66,6	75	83,3	91,6	100	108	116	133	150	158
B- **NG 3E**	3	1,7	B- **NGM 3E**	4,5	0,9	0,55	0,75		49	45,5	40	36	32	28	24												
B- **NG 4E**	3,7	2,2	B- **NGM 4E**	5,7	1	0,75	1		41	39	36	33	31	29	26	24	21										
NG 32E	5	2,9	**NGM 32E**	7,4	1,47	1,1	1,5			49	46	43,5	41	39	38	36	34	33	31								
B- **NG 5/16E**	5	2,9	B- **NGM 5/16E**	7,4	1,64	1,1	1,5			59	54	50	46	43	40	37	34,5	32									
B- **NG 5/18E**	5	2,9	B- **NGM 5/18E**	7,4	1,68	1,1	1,5			48,5	46	43,5	41,5	39,5	38	35,5	34	32	30,5	29	28						
B- **NG 5/22E**	5	2,9	B- **NGM 5/22E**	7,4	1,55	1,1	1,5			35,5	34,5	33	31,5	30,5	29,5	28	27	26	25	23,5	23	21,5	20,5	18,5	16,5	15,5
B- **NG 6/18E**	7,5	4,3				1,5	2	H m		64,5	62	59	56	54	51	48,5	46	43,5	41,5	39	36,5					
			B- **NGM 6/18E**	9,2	2	1,5	2			59	57	54	51	48	45	43	40	37,5	35	33	30					
B- **NG 6/22E**	7,5	4,3				1,5	2			51,5	50	48,5	47	46	44,5	43	41,5	40	39	37,5	36,5	35	33,5	31	28,5	27
			B- **NGM 6/22E**	9,2	2	1,5	2			47	45	43,5	42	41	40	38	37	36	35	33	32	31	30	27	24	23
B- **NG 7/16E**	9,15	5,3				2,2	3			89	83	77	72	67	62	58	54									
B- **NG 7/18E**	9,15	5,3				2,2	3			74,5	71,5	68,5	65,5	63	60	57,5	55	53	51	49	47	45				
B- **NG 7/22E**	9,15	5,3				2,2	3			59	57,5	56,5	55	54	52,5	51	50	48,5	47	45,5	44	42,5	41,5	38	35	34

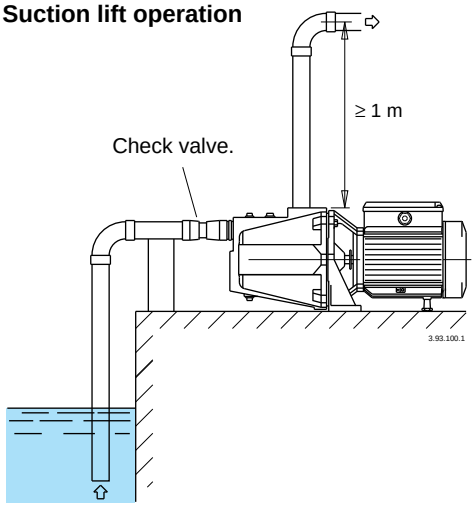
P_1 Max. power input. P_2 Rated motor power output. B-NG, B-NGM = Bronze construction. Tolerances according to ISO 9906, annex A.

Installation examples

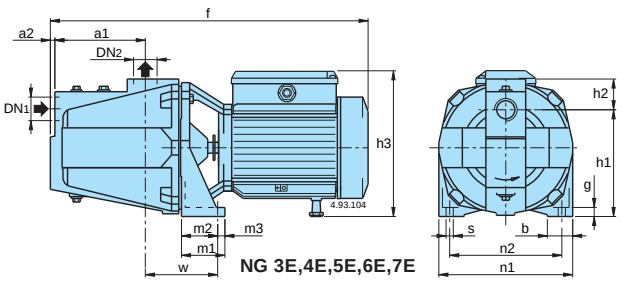
Positive suction head operation



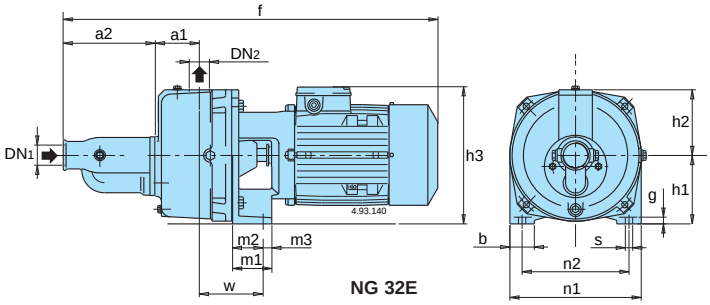
Suction lift operation



Dimensions and weights



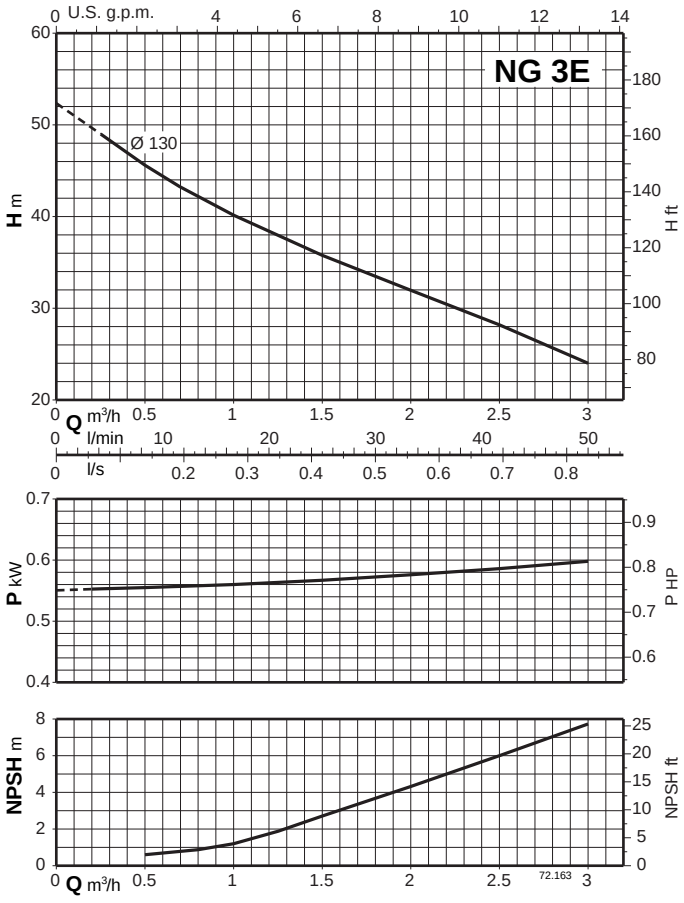
NG 3E,4E,5E,6E,7E

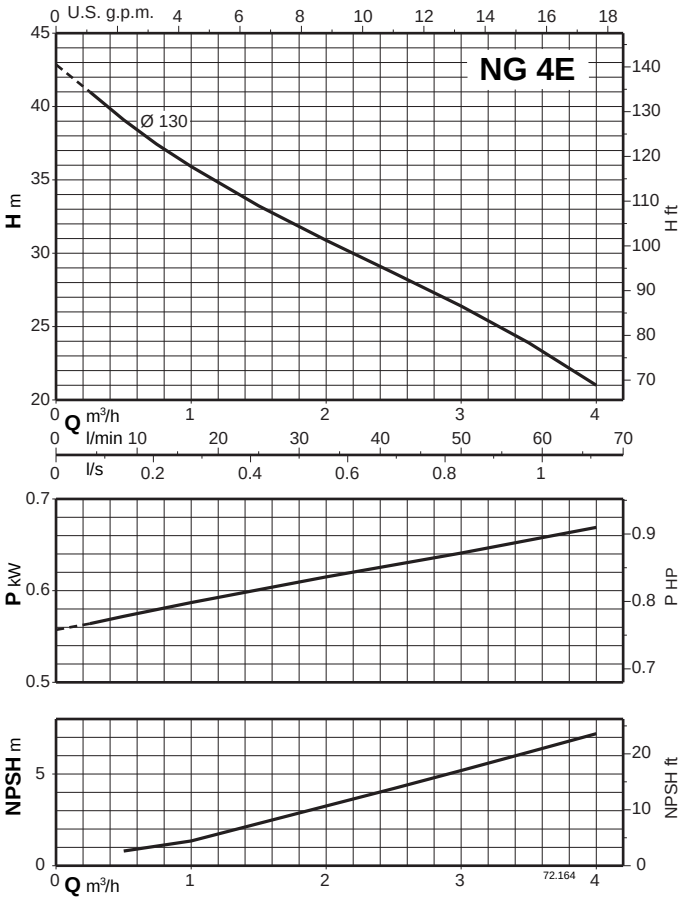


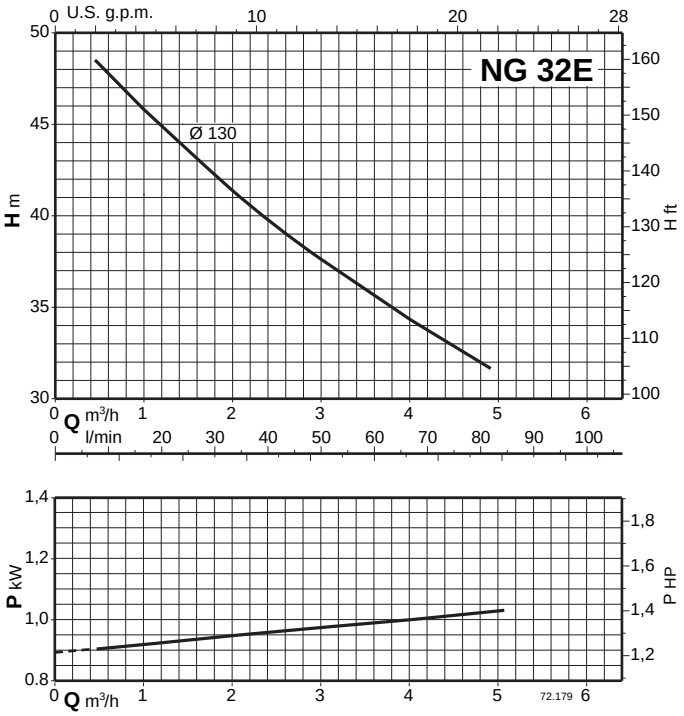
NG 32E

TYPE		DN_1	DN_2	mm															kg	
		ISO 228		a1	a2	f	h1	h2	h3	m1	m2	m3	n1	n2	b	s	w	g	**NG**	**B-NG**
NG 3E	**B-NG 3E**	G 1	G 1	127	8	430	150	43	203	60	52	8	185	155	35	9,5	100	11	18,4	20,8
NG 4E	**B-NG 4E**																		19,2	21,5
NG 5E	**B-NG 5E**	G 1 1/2	G 1	160	10	560	165	57	197	60	50	10	215	175	40	11,5	115	11	29,2	31,6
NG 6E	**B-NG 6E**																		30,8	32,9
NG 7E	**B-NG 7E**																		31,3	33,4
NG 32E	-	G 1 1/2	G 1	75	175	557	112	108	222	60	34	26	215	175	40	11	106	10	38	-

Characteristic curves n ≈ 2900 rpm







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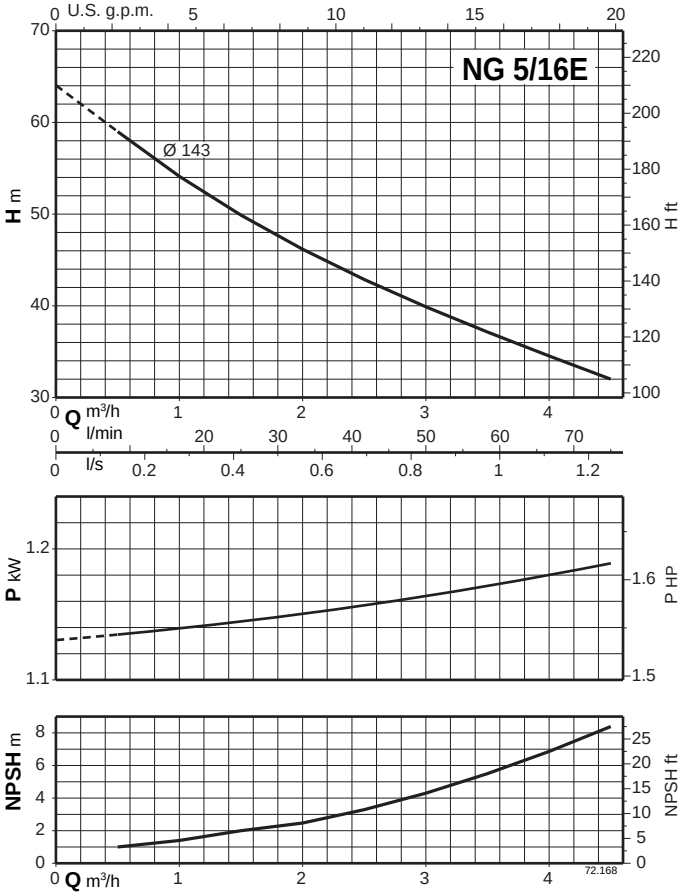
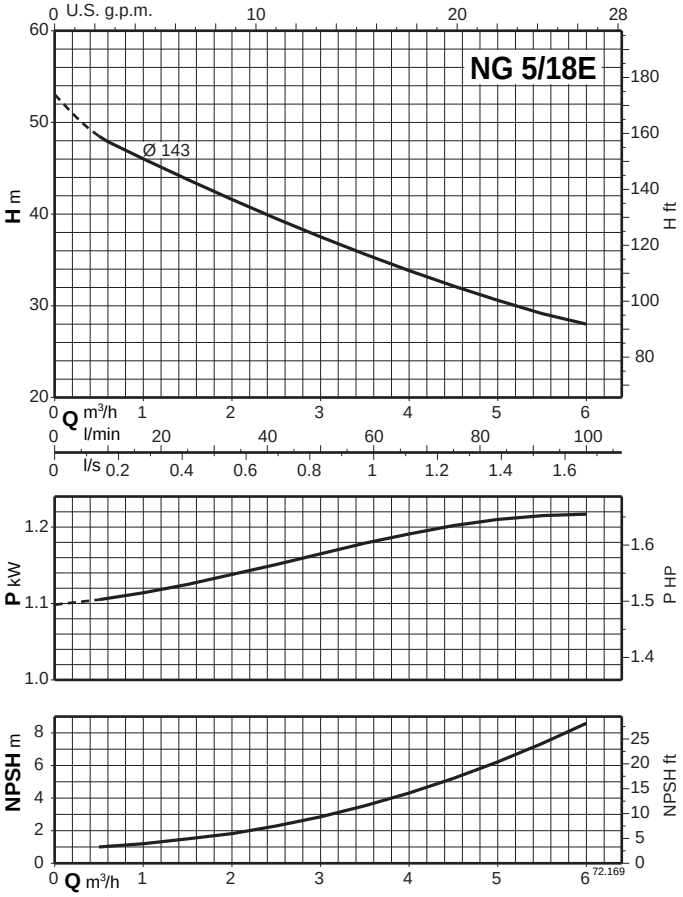
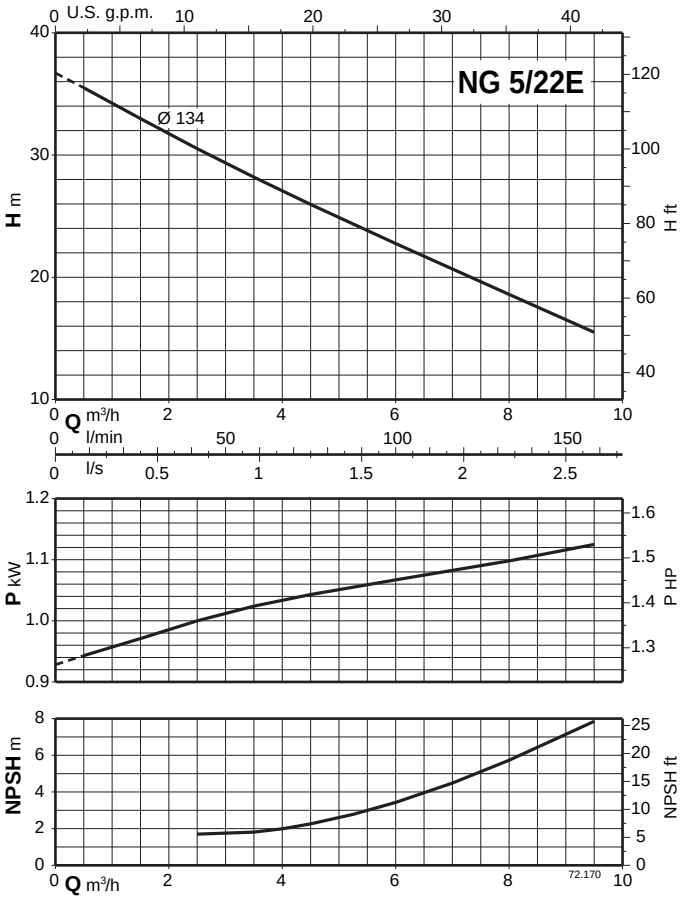
NG

Self-Priming Jet Pumps

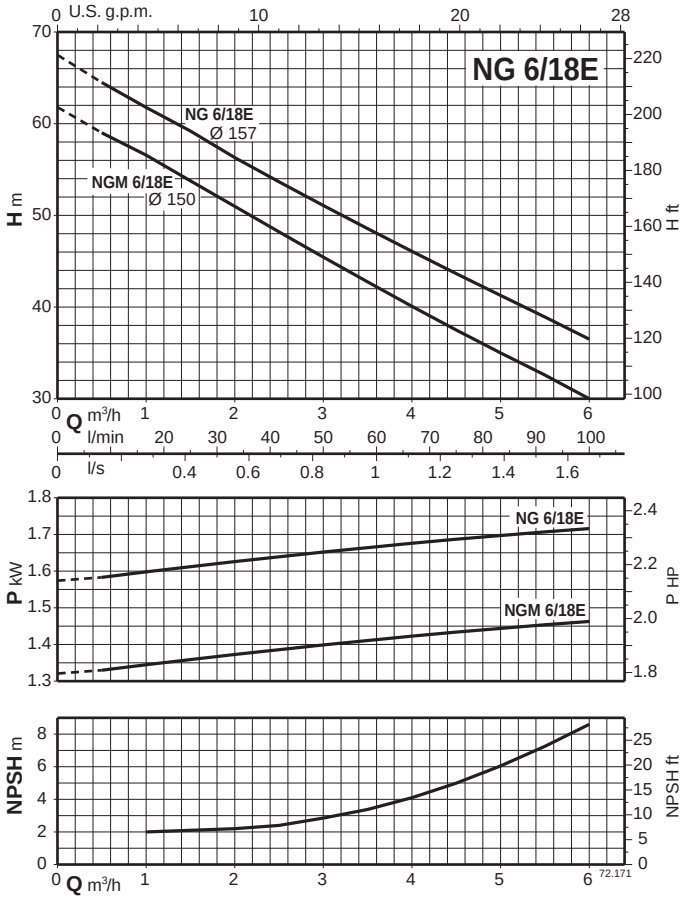
Characteristic curves n ≈ 2900 rpm

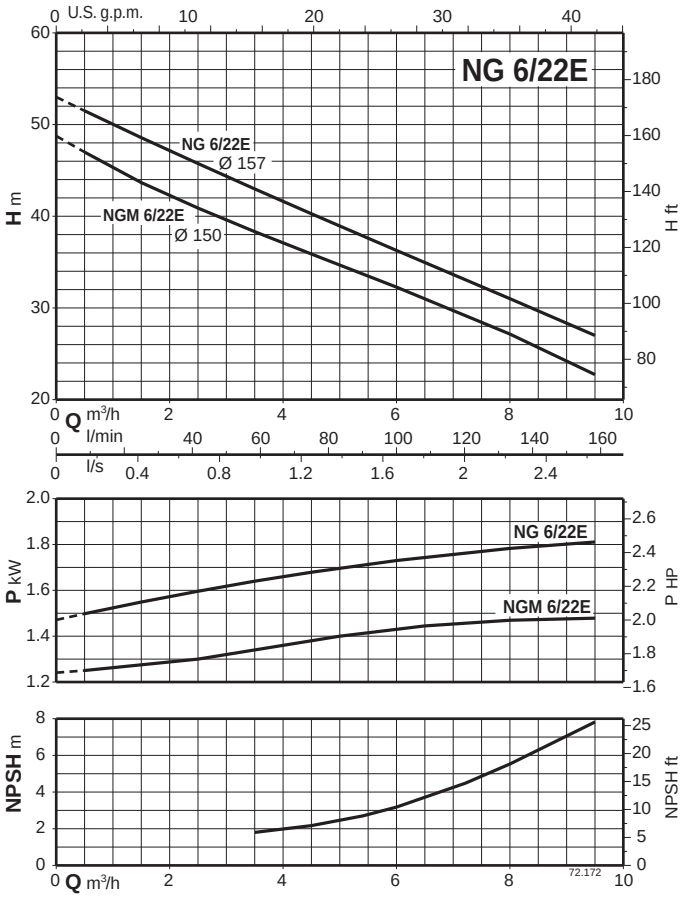






Characteristic curves n ≈ 2900 rpm





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Characteristic curves n ≈ 2900 rpm