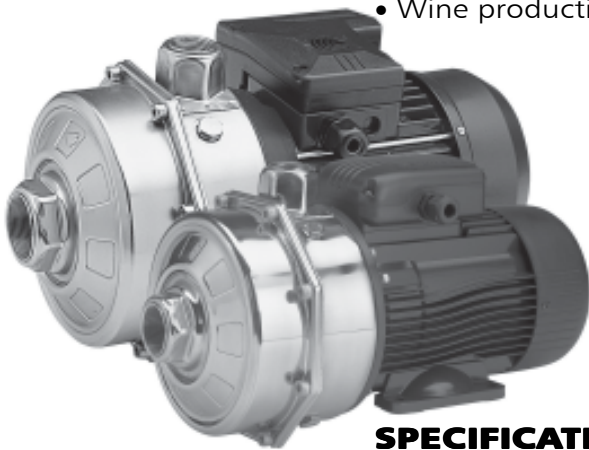


Twin-Impeller Centrifugal Electric Pumps

CA-CA(N) Series



MARKET SECTORS

CIVIL, AGRICULTURAL, INDUSTRIAL.

APPLICATIONS

Version made of AISI 304

- Handling of chemically and mechanically non-aggressive water and liquids (*).
- Water supply.
- Irrigation.
- Water circulation (cold, hot, refrigerated).

* For moderately aggressive liquids, a version with FPM elastomers is available (CA../.-V). For aggressive liquids, please contact our sales network.

“N” version made of AISI 316 (for aggressive liquids)

- Reverse osmosis (where demineralized water is used).
- Industrial washing.
- Thermal waters.
- Chlorine dispensing in swimming pools.
- Jewellery industry.
- Wine production.

the overload protection must be provided and installed by the user in the control panel.

- **Three-phase** versions: 220-240/380-415 V 50 Hz, 2 poles, the overload protection must be provided and installed by the user in the control panel.

- Condensate drain plugs in the standard version.

CONSTRUCTION CHARACTERISTICS

- Close-coupled, single-impeller centrifugal pump featuring axial suction and radial discharge.
- Compact construction, with pump coupled directly to motor; special motor shaft extension in common with the pump and supported by ball bearings.
- Threaded suction and discharge ports (Rp ISO 7).
- High performance enclosed **Impeller** made of **AISI 304** stainless steel (**AISI 316** for N version).
- **Mechanical seal** with Ceramic/Carbon rings, NBR elastomers, (EPDM for N version) other parts are made of AISI 304 stainless steel (AISI 316 for N version). Mounting dimensions according to EN 12756 (ex DIN 24960) and ISO 3069.
- **O-rings** made of NBR (EPDM for N version).
- Mounting pedestal on motor.

SPECIFICATIONS PUMP

- **Delivery** up to 210 l/min (12,5 m³/h).
- **Head** fino a 62 m.
- **Temperature** of pumped liquid: -10°C to +85°C standard version. -10°C to +110°C (N and V versions).
- Maximum operating **pressure** : 8 bar (PN 8).
- Counter-clockwise rotation facing the pump from the suction port.

MOTOR

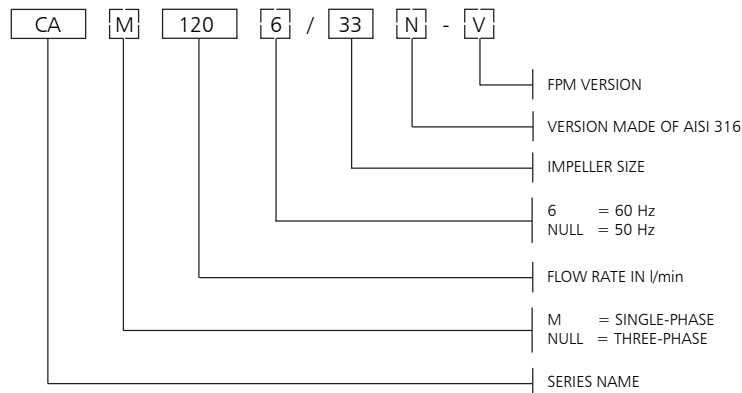
- Asynchronous, squirrel cage rotor, close construction, external ventilation.
- **Protection class:** IP55.
- Class 155 (F) **Insulation**.
- Performances to EN 60034-1 specifications.
- **Standard voltage:**
 - **Single-phase** versions: 220-240 V 50 Hz, 2 poles, with automatic reset overload protection up to 1,5 kW. For higher powers,

OPTIONAL FEATURES

- Different voltages and frequencies.
- Different material for the mechanical seal and O-rings.

□ **Standard supplied IE2 motors are compliant with Regulation (EC) no. 640/2009.**

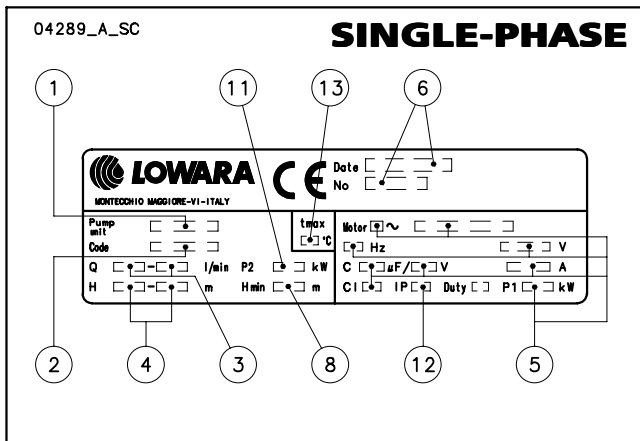
CA-CA(N) SERIES IDENTIFICATION CODE



EXAMPLE : CAM 120/33-V

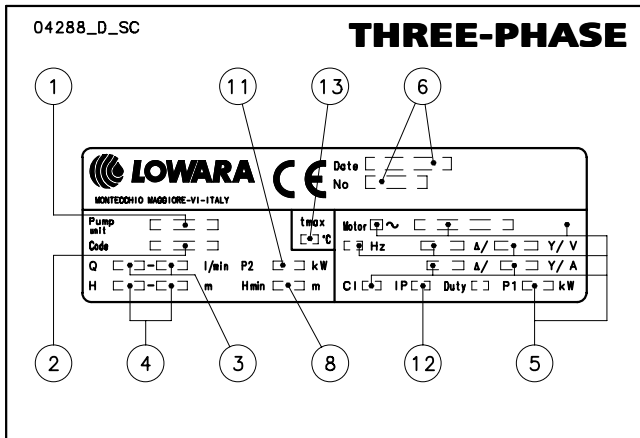
CA series electric pump, single-phase, flow rate 120 l/min
50 Hz, Impeller size 33, FPM version.

RATING PLATE



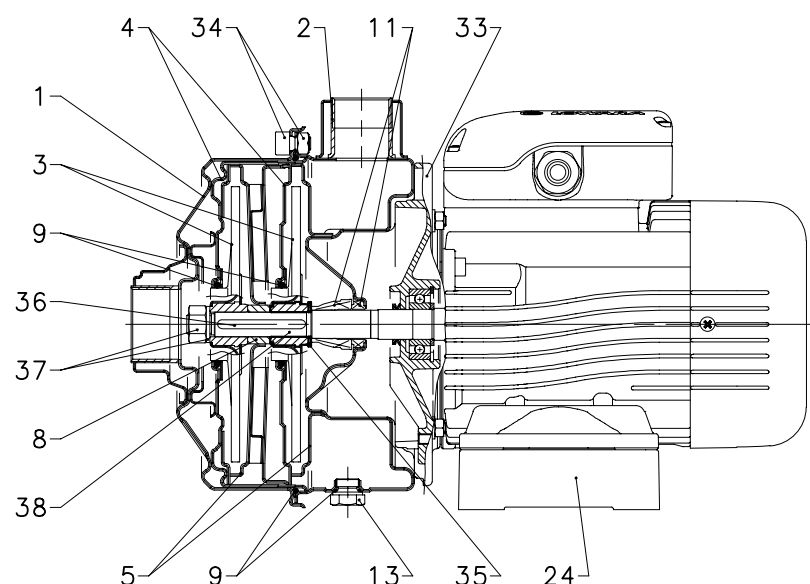
LEGEND

- 1 - Electric pump type
- 2 - Code
- 3 - Delivery range
- 4 - Head range
- 5 - Motor characteristics
- 6 - Date of manufacturing and serial number
- 8 - Minimum head
- 11 - Rated power
- 12 - Electric pump protection class
- 13 - Maximum temperature of pumped liquid



CA - CA(N) SERIES LIST OF MODELS AND TABLE OF MATERIALS

02179_B_DS



VERSIONS	
CA70/33	
CA70/34	
CA70/45	
CA120/33	
CA120/35	
CA120/55	
CA200/33	
CA200/35	
CA200/55	

ca-caN-en_a_mo

CA SERIES TABLE OF MATERIALS

REF. N.	PART	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Suction flange	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
2	Pump body	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
3	Impeller	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
4	Diffuser cover	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
5	Diffuser cover	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
8	Impeller spacer	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
9	Elastomers	NBR (standard version)		
11	Mechanical seal	Ceramic / Carbon / NBR (standard version)		
13	Fill/drain plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
24	Mounting pedestal	Aluminium	EN 1706-AC-AISI11Cu2 (Fe) (AC46100)	-
33	Adapter	Aluminium	EN 1706-AC-AISI11Cu2 (Fe) (AC46100)	-
34	Pump body fastening nuts and bolts	Zinc-plated steel		
35	Impeller shoulder washer	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
36	Key	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
37	Impeller lock nut and washer	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
38	Shaft extension	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316

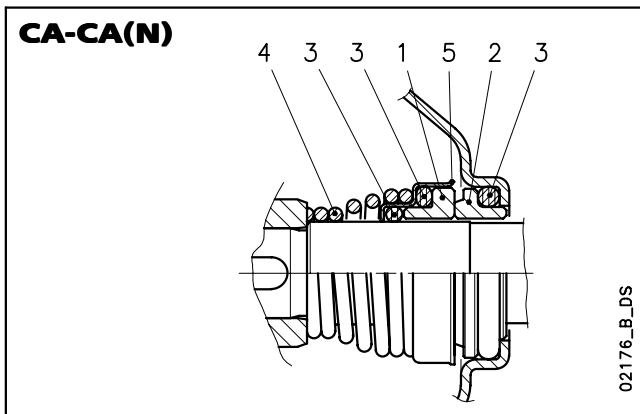
CA(N) SERIES TABLE OF MATERIALS

ca-ca-en_b_tm

REF. N.	PART	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Suction flange	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
2	Pump body	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
3	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
4	Diffuser cover	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
5	Diffuser	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
8	Impeller spacer	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
9	Elastomers	EPDM (standard version)		
11	Mechanical seal	Ceramic / Carbon / EPDM (standard version)		
13	Fill/drain plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
24	Mounting pedestal	Aluminium	EN 1706-AC-AISI11Cu2 (Fe) (AC46100)	-
33	Adapter	Aluminium	EN 1706-AC-AISI11Cu2 (Fe) (AC46100)	-
34	Pump body fastening nuts and bolts	Zinc-plated steel		
35	Impeller shoulder washer	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
36	Key	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
37	Impeller lock nut and washer	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
38	Shaft extension	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316

CA-CA(N) MECHANICAL SEAL, ACCORDING TO EN 12756

Mechanical seal with mounting dimensions according to EN12756 (ex DIN 24960) and ISO 3069.



CA-CA(N) LIST OF MATERIALS

POSITION 1 - 2	POSITION 3	POSITION 4 - 5
B : Resin impregnated carbon	P : NBR	F : AISI 304
C : Special resin impregnated carbon	E : EPDM	G : AISI 316
Q₁ : Silicon carbide	V : FPM	
U₃ : Tungsten carbide		
V : Ceramic		

cea-ca_ten-mec-en_b_tm

CA MECHANICAL SEALS

TYPE	POSITION					TEMPERATURE (°C)
	1 ROTATING ASSEMBLY	2 FIXED ASSEMBLY	3 ELASTOMERS	4 SPRINGS	5 OTHER COMPONENTS	
STANDARD MECHANICAL SEAL						
VBPGF	V	B	P	G	F	-10 +85
OTHER TYPES OF MECHANICAL SEAL						
VBEGF	V	B	E	G	F	-10 +110
VCEGG	V	C	E	G	G	-10 +110
Q₁Q₁EGF	Q₁	Q₁	E	G	F	-10 +110
U₃BEGF	U₃	B	E	G	F	-10 +110
U₃CEGF	U₃	C	E	G	F	-10 +110
U₃U₃EGF	U₃	U₃	E	G	F	-10 +110
VBVGF	V	B	V	G	F	-10 +110
VCVGF	V	C	V	G	F	-10 +110
Q₁Q₁VGF	Q₁	Q₁	V	G	F	-10 +110
U₃CVGF	U₃	C	V	G	F	-10 +110
U₃U₃VGF	U₃	U₃	V	G	F	-10 +110

ca_tipi-ten-mec-en_b_tc

CA(N) MECHANICAL SEALS

TYPE	POSITION					TEMPERATURE (°C)
	1 ROTATING ASSEMBLY	2 FIXED ASSEMBLY	3 ELASTOMERS	4 SPRINGS	5 OTHER COMPONENTS	
STANDARD MECHANICAL SEAL						
VBEGG	V	B	E	G	G	-10 +110
OTHER TYPES OF MECHANICAL SEAL						
VCEGG	V	C	E	G	G	-10 +110
Q₁Q₁EGG	Q₁	Q₁	E	G	G	-10 +110
VCVGG	V	C	V	G	G	-10 +110
Q₁Q₁VGG	Q₁	Q₁	V	G	G	-10 +110

cean-can_tipi-ten-mec-en_b_tc

CA-CA(N) SERIES HYDRAULIC PERFORMANCE TABLE AT 50 Hz, 2 POLES

PUMP TYPE	RATED POWER		Q = DELIVERY												
			l/min	0	30	40	50	60	70	80	100	120	150	180	210
	kW	HP	m ³ /h	0	1,8	2,4	3	3,6	4,2	4,8	6	7,2	9	10,8	12,6
H = TOTAL HEAD METRES COLUMN OF WATER															
CA(M) 70/33	0,75	1	42,9	38,8	36,9	34,6	31,7	28,2	23,9						
CA(M) 70/34	0,9	1,2	48,8	45,1	43,2	40,7	37,7	34,0	29,5						
CA(M) 70/45	1,1	1,5	56,2	52,0	49,8	47,1	43,9	39,9	35,3						
CA(M) 120/33	1,1	1,5	44,3			39,1	37,8	36,4	34,8	31,4	27,6	21,0			
CA(M) 120/35	1,5	2	54,0			49,4	48,1	46,6	44,9	41,2	36,8	29,3			
CA(M) 120/55	2,2	3	63,8			59,6	58,2	56,6	54,8	50,6	45,7	37,1			
CA(M) 200/33	1,85	2,5	43,2			41,8	41,2	40,6	39,9	38,3	36,4	33,2	29,5	25,5	
CA(M) 200/35	2,2	3	53,5			52,4	51,9	51,4	50,7	49,2	47,5	44,3	40,6	36,5	
CA 200/55	3	4	62,6			61,0	60,6	60,1	59,5	58,2	56,6	53,8	50,4	46,2	

ca-2p50-en_d_th

CA-CA(N) SERIES ELECTRICAL DATA AT 50 Hz, 2 POLES

PUMP TYPE	MOTOR TYPE	INPUT POWER*	INPUT CURRENT* 220-240 V	CAPACIT. μF / 450 V	PUMP TYPE	MOTOR TYPE	INPUT POWER*	INPUT CURRENT* 220-240 V	INPUT CURRENT* 380-415 V
		kW	A				kW	A	A
CAM70/33	SM71CA/1075	1,15	5,16	20	CA70/33	SM80CA/307HE	1,11	3,43	1,98
CAM70/34	SM71CA/1095	1,39	6,22	25	CA70/34	SM80CA/311HE	1,32	4,05	2,34
CAM70/45	SM80CA/1115	1,76	7,92	30	CA70/45	SM80CA/311HE	1,67	4,95	2,86
CAM120/33	SM80CA/1115	1,67	7,53	30	CA120/33	SM80CA/311HE	1,58	4,72	2,73
CAM120/35	SM80CA/1155	2,18	9,87	40	CA120/35	LLM90CA/315	1,99	5,85	3,38
CAM120/55	PLM90CA/1225	2,54	11,5	70	CA120/55	LLM90CA/322	2,47	7,40	4,28
CAM200/33	PLM90CA/1225	2,29	10,4	70	CA200/33	LLM90CA/322	2,18	6,71	3,88
CAM200/35	PLM90CA/1225	2,94	12,6	70	CA200/35	LLM90CA/322	2,97	8,86	5,12
-	-	-	-	-	CA200/55	LLM90CA/330	3,52	10,7	6,19

*Maximum value in specified range.

ca-2p50-en_d_te

MOTORS FOR CA-CA(N) SERIES

Standard supplied IE2 three-phase surface motors $\geq 0,75$ kW are compliant with Regulation (EC) no. 640/2009 and IEC 60034-30.

Electrical performances according to EN 60034-1.

Insulation class 155 (F). IP55 protection. Condensate drain plugs on standard version.

Cooling by fan according to EN 60034-6.

Cable gland metric size according to EN 50262. Standard voltage:

- **Single-phase version:** 220-240 V 50 Hz (incorporated automatic-reset overload protection).
- **Three-phase version:** 220-240/380-415 V 50 Hz (overload protection to be provided by the user).

SINGLE-PHASE MOTORS AT 50 Hz, 2 POLES

P _N kW	MOTOR TYPE	IEC SIZE	Construction Design	INPUT CURRENT I _n (A)		CAPACITOR		DATA FOR 230 V 50 Hz VOLTAGE						
				220-240 V		μF	V	min ⁻¹	I _s / I _n	η %	cosφ	T _n Nm	T _s /T _n	T _m /T _n
0,75	SM71CA/1075	71	SPECIAL	4,90-4,85		20	450	2765	3,42	70,1	0,96	2,59	0,58	1,75
0,95	SM71CA/1095	71		6,25-5,89		25	450	2740	3,39	71,1	0,98	3,31	0,58	1,66
1,1	SM80CA/1115	80		6,88-6,65		30	450	2800	3,89	74,7	0,96	3,75	0,46	1,72
1,5	SM80CA/1155	80		9,21-8,58		40	450	2810	4,00	76,1	0,98	5,09	0,39	1,74
1,85	PLM80CA/1225	90		12,5-11,6		70	450	2825	4,47	82,4	0,97	7,43	0,53	1,87
2,2	PLM80CA/1225	90		12,5-11,6		70	450	2825	4,47	82,4	0,97	7,43	0,53	1,87

THREE-PHASE MOTORS AT 50 Hz, 2 POLES

ca-motm-2p50-en_a_te

P _N kW	Efficiency η _N %																		IE	Year of manufacture
	Δ 220 V Y 380 V			Δ 230 V Y 400 V			Δ 240 V Y 415 V			Δ 380 V Y 660 V			Δ 400 V Y 690 V			Δ 415 V				
	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4		
0,75	77,4	77,4	74,0	77,4	77,4	74,0	77,4	77,4	74,0	77,4	77,4	74,0	77,4	77,4	74,0	77,4	77,4	74,0	2	By June 2011
0,9	80,1	80,1	78,9	80,1	80,1	78,9	80,1	80,1	78,9	80,1	80,1	78,9	80,1	80,1	78,9	80,1	80,1	78,9		
1,1	80,1	80,1	78,9	80,1	80,1	78,9	80,1	80,1	78,9	80,1	80,1	78,9	80,1	80,1	78,9	80,1	80,1	78,9		
1,5	82,6	83,7	81,8	82,6	83,7	81,8	82,6	83,7	81,8	82,6	83,7	82,7	83,4	83,9	82,2	83,8	83,9	81,8		
2,2	83,7	84,6	82,9	83,7	84,6	82,9	83,7	84,6	82,9	83,7	84,6	83,6	84,6	84,9	83,3	84,9	84,9	82,9		
2,2	83,7	84,6	82,9	83,7	84,6	82,9	83,7	84,6	82,9	83,7	84,6	83,6	84,6	84,9	83,3	84,9	84,9	82,9		
3	86,1	87,0	85,6	86,1	87,0	85,6	86,1	87,0	85,6	86,1	87,4	87,1	86,6	87,4	86,5	86,7	87,0	85,6		

P _N kW	Manufacturer		IEC SIZE	Construction Design	N. of Poles	f _N Hz	Data for 400 V / 50 Hz Voltage				
	Lowara srl Unipersonale Reg. No. 341820260 Montecchio Maggiore Vicenza - Italia						cosφ	I _s / I _N	T _N Nm	T _s /T _N	T _m /T _N
	Model										
0,75	SM80CA/307HE		80	SPECIAL	2	50	0,79	8,70	2,47	4,71	4,09
0,9	SM80CA/311HE		80				0,82	8,98	3,63	4,62	4,00
1,1	SM80CA/311HE		80				0,82	8,98	3,63	4,62	4,00
1,5	LLM90CA/315		90				0,85	7,47	4,97	3,09	3,26
1,85	LLM90CA/322		90				0,84	7,71	7,29	3,73	3,73
2,2	LLM90CA/322		90				0,84	7,71	7,29	3,73	3,73
3	LLM90CA/330		90	0,82	8,45	9,93	3,44	3,86			

P _N kW	Voltage U _N V										n _N min ⁻¹	See note.	Operating conditions **		
	Δ			Y			Δ			Y			Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
	220 V	230 V	240 V	380 V	400 V	415 V	380 V	400 V	415 V	660 V					
0,75	3,10	3,05	3,03	1,79	1,76	1,75	1,78	1,76	1,74	1,03	1,01	2885 ÷ 2905	≤ 1000	-15 / 40	No
0,9	4,17	4,09	4,07	2,41	2,36	2,35	2,40	2,36	2,34	1,39	1,36	2880 ÷ 2900			
1,1	4,17	4,09	4,07	2,41	2,36	2,35	2,40	2,36	2,34	1,39	1,36	2880 ÷ 2900			
1,5	5,33	5,14	5,07	3,08	2,97	2,93	3,08	2,97	2,93	1,78	1,71	2855 ÷ 2890			
1,85	7,72	7,50	7,45	4,46	4,33	4,30	4,46	4,33	4,30	2,57	2,50	2860 ÷ 2890			
2,2	7,72	7,50	7,45	4,46	4,33	4,30	4,46	4,33	4,30	2,57	2,50	2860 ÷ 2890			
3	10,7	10,5	10,5	6,16	6,07	6,09	6,16	6,07	6,09	3,56	3,50	2870 ÷ 2890			

Note: Observe the regulations and codes locally in force regarding sorted waste disposal.

ca-ie2-mott-2p50-en_a_te

** Operating conditions to be referred to motor only. About electric pump, refer to limits in user's manual.

AVAILABLE VOLTAGES MOTORS FOR CA-CA(N) SERIES

P _N kW	IEC SIZE	SINGLE-PHASE							
		50 Hz				60 Hz			
		1 x 220-240	1 x 100	1 x 110-120	1 x 220-230	1 x 100	1 x 110-115	1 x 120-127	1 x 200-210
0,75	71	s	o	o	s	o	o	o	o
0,95	71	s	o	o	s	o	o	o	o
1,1	80	s	-	o	s	-	o	-	o
1,5	80	s	-	-	s	-	o	-	o
2,2	90	s	-	-	s	-	-	-	-

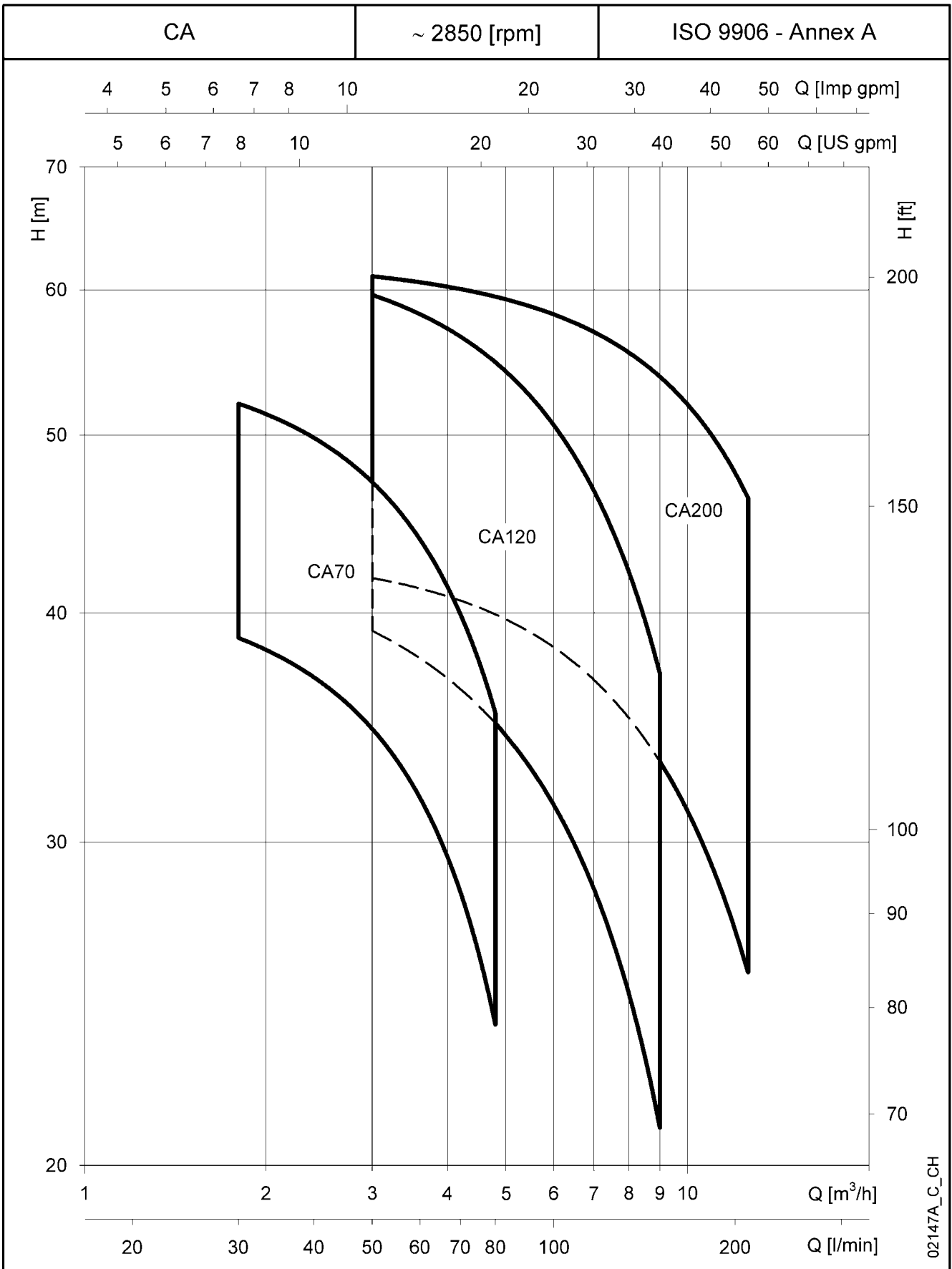
s = Standard voltage o = Optional voltage

P _N kW	THREE-PHASE - 2 POLES																		
	50 Hz							60 Hz					50/60 Hz						
	3 x 220-230-240/380-400-415	3 x 380-400-415/660-690	3 x 200-208/346-360	3 x 255-265/440-460	3 x 290-300/500-525	3 x 440-460/-	3 x 500-525/-	3 x 220-230/380-400	3 x 255-265-277/440-460-480	3 x 380-400/660-690	3 x 440-460-480/-	3 x 110-115/190-200	3 x 200-208/346-360	3 x 330-346/575-600	3 x 575/-	3 x 230/400 50 Hz	3 x 265/460 60 Hz	3 x 400/690 50 Hz	3 x 460/- 60 Hz
0,75	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o	o	o
0,95	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o	o	o
1,1	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o	o	o
1,5	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o	o	o
2,2	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o	o	o
3	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o	o	o

- = Not available

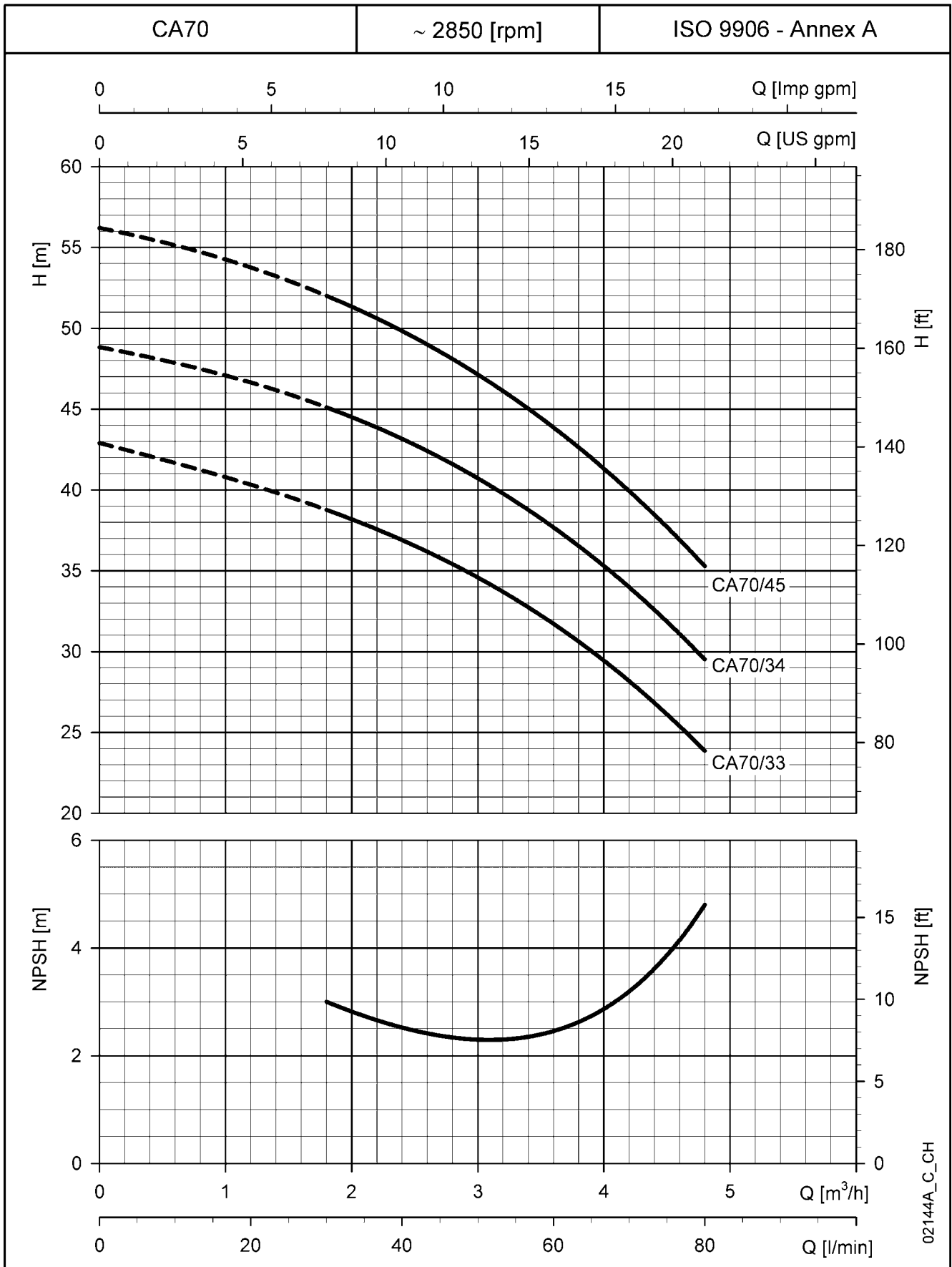
ca-volt-low-a-en_a_te

**CA-CA(N) SERIES
HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 2 POLES**



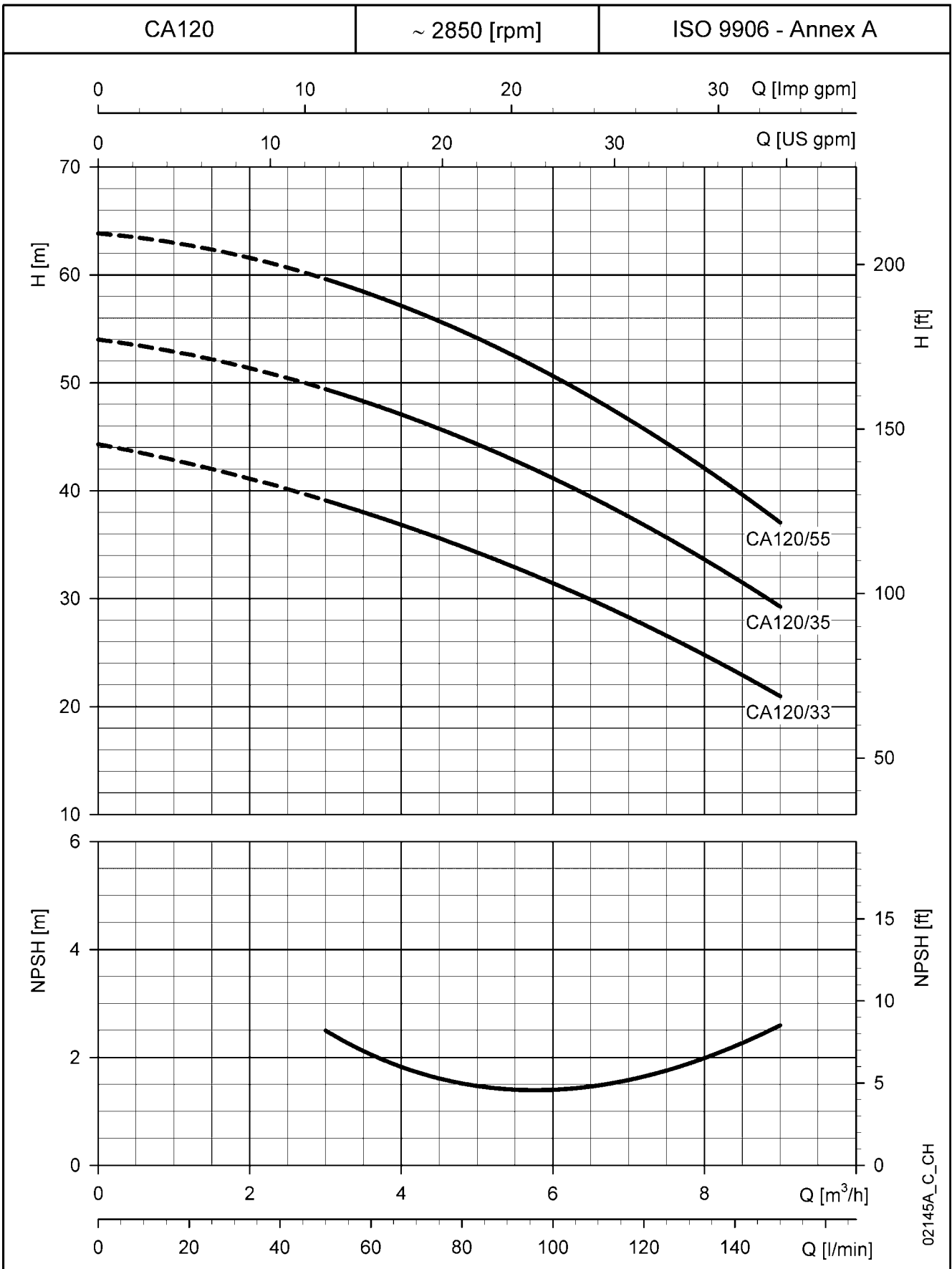
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**CA70 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



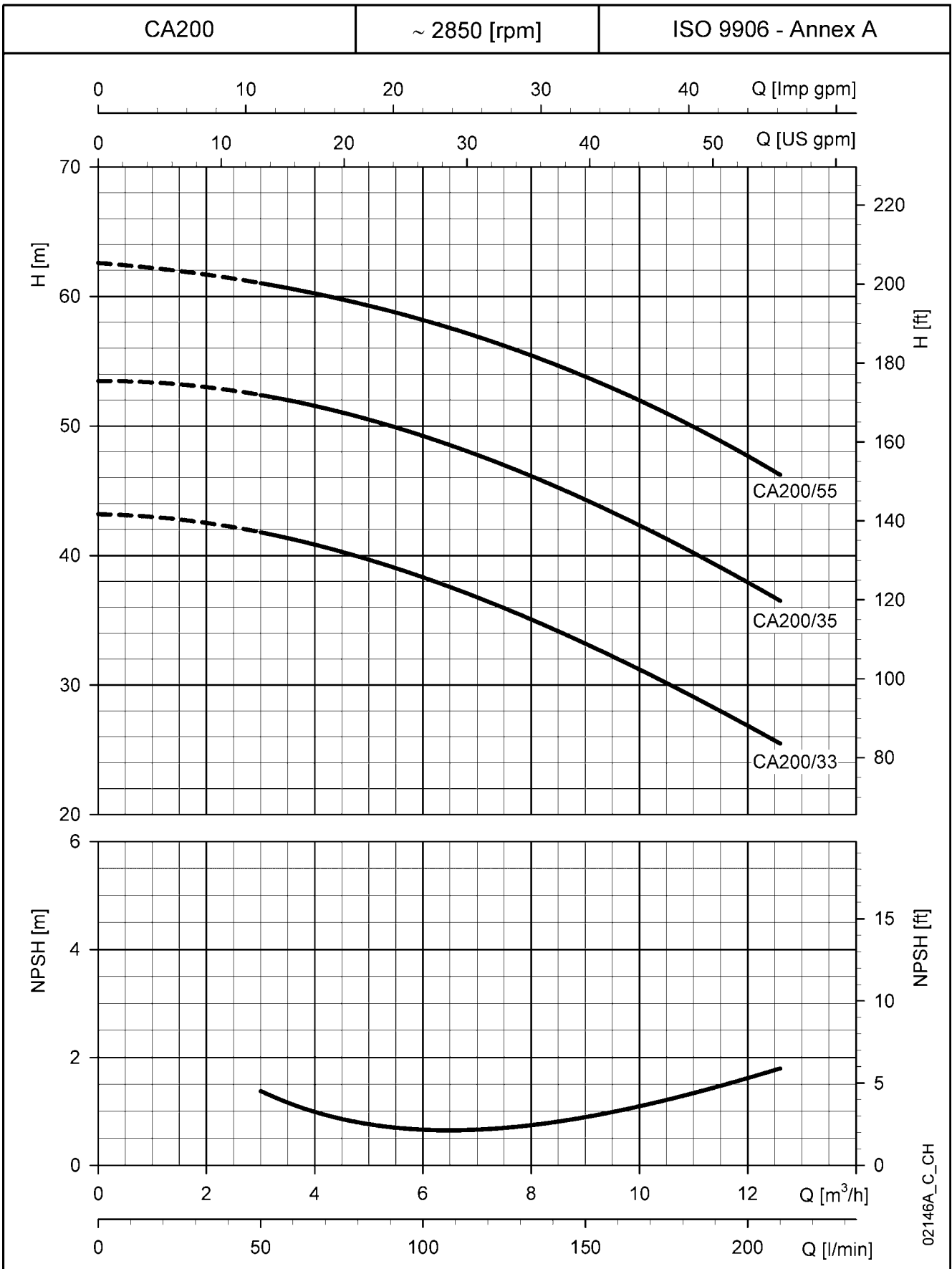
These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

**CA120 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



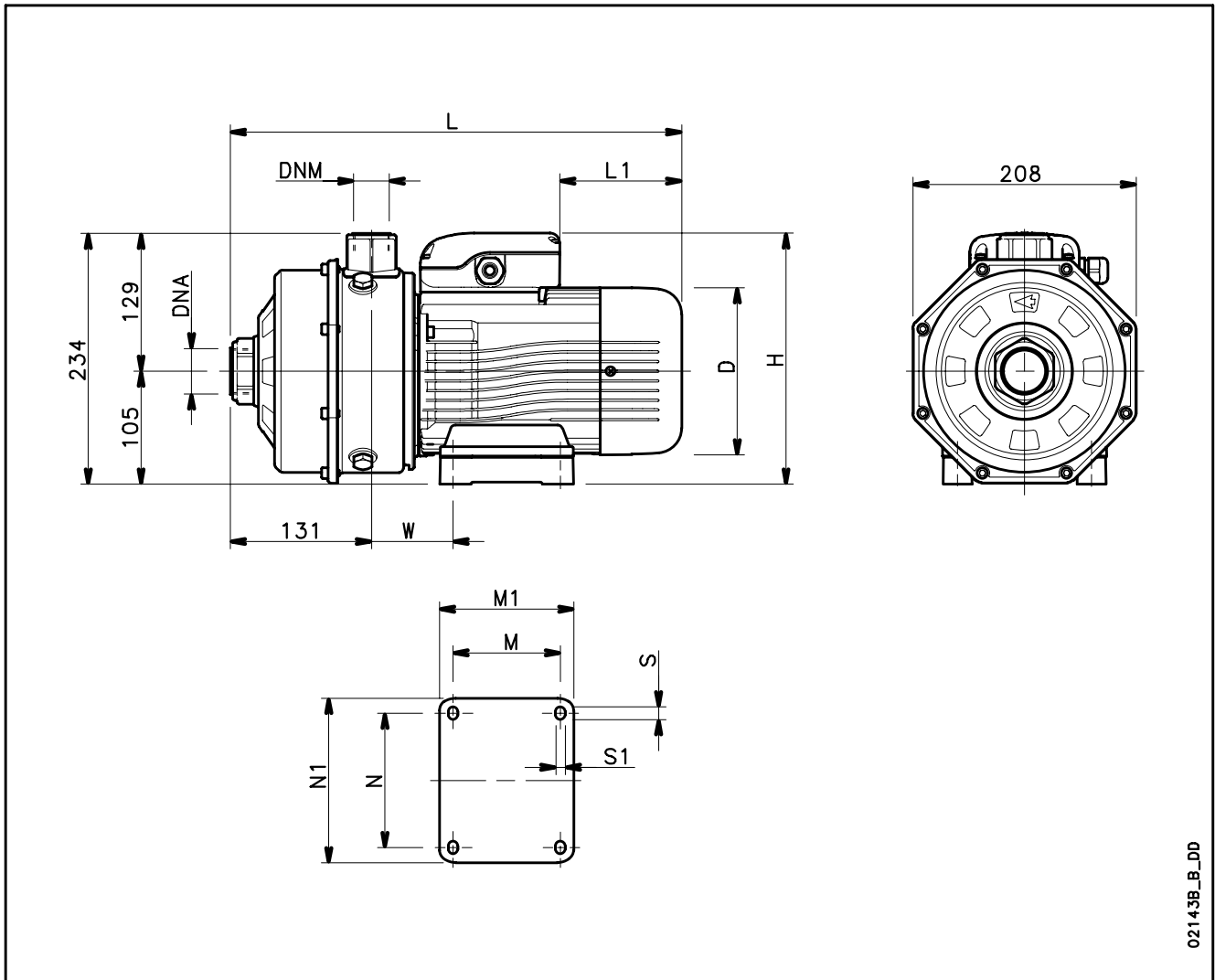
These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

**CA200 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

CA-CA(N) SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



021*3B_B_DD

POMPA TIPO	DIMENSIONI (mm)											DNA	DNM	PESO kg
	D	H	L	L1	M	M1	N	N1	S	S1	W			
CAM 70/33	140	226	383	76	90	113	112	135	12	7	66	Rp 1/4	Rp 1	15
CAM 70/34	140	235	383	31	90	113	112	135	12	7	66	Rp 1/4	Rp 1	15,8
CAM 70/45	156	242	420	69	100	125	125	153	12	9	76	Rp 1/4	Rp 1	18,5
CAM 120/33	156	242	420	69	100	125	125	153	12	9	76	Rp 1/4	Rp 1	18,4
CAM 120/35	156	242	420	69	100	125	125	153	12	9	76	Rp 1/4	Rp 1	20,2
CAM 120/55	174	239	454	84	125	155	140	170	13	10	98	Rp 1/4	Rp 1	27
CAM 200/33	174	239	454	84	125	155	140	170	13	10	98	Rp 1/2	Rp 1	27
CAM 200/35	174	239	454	84	125	155	140	170	13	10	98	Rp 1/2	Rp 1	27
CA 70/33	155	234	420	114	100	125	125	153	12	9	76	Rp 1/4	Rp 1	18
CA 70/34	155	234	420	114	100	125	125	153	12	9	76	Rp 1/4	Rp 1	19
CA 70/45	155	234	420	114	100	125	125	153	12	9	76	Rp 1/4	Rp 1	20
CA 120/33	155	234	420	114	100	125	125	153	12	9	76	Rp 1/4	Rp 1	20
CA120/35	178	242	433	125	125	150	140	170	13	10	98	Rp 1/4	Rp 1	22,5
CA 120/55	178	242	433	125	125	150	140	170	13	10	98	Rp 1/4	Rp 1	24
CA 200/33	178	242	433	125	125	150	140	170	13	10	98	Rp 1/2	Rp 1	24
CA 200/35	178	242	433	125	125	150	140	170	13	10	98	Rp 1/2	Rp 1	24
CA 200/55	178	242	453	145	125	150	140	170	13	10	98	Rp 1/2	Rp 1	26

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