



# CASTLE PUMPS LTD

Your process delivered.

The UK Agent of...  
**azcuepumps**



## Datasheet

**Interchangeable spare parts** with other Azcue models to reduce stock holding

**Manufactured in Spain** with materials from own foundry

**Marine type approved** by all classification societies e.g. Lloyds/ABS

Available with semi open impeller for handling soft **solids up to 10mm**

**Additional bearing** in the pump head to share the strain of operation and increase robustness

**Separate shafts** in pump head & motor - no need to replace entire pump and motor if shaft wears

**Wearing rings** to improve pump efficiency and provide clearance between the casing and impeller, preventing their wear, meaning only the less costly wear rings need replacing



**Back pull out design** for easy maintenance - allows the motor to be removed without disconnecting the pump

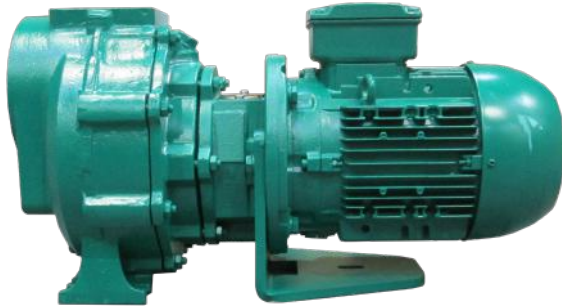
**Long service intervals** - 4000-8000 hours with bearing replacement at 35,000 intervals

**Close coupled version with lantern bracket** to separate the pump head and motor should the seal fail - prevents fluid from entering the motor

**Self priming** pump able to run dry for up to 30 minutes once initially primed - making it ideal for difficult suction conditions

## Series CA Self Priming Centrifugal Pump

# CA Self Priming Centrifugal Pump

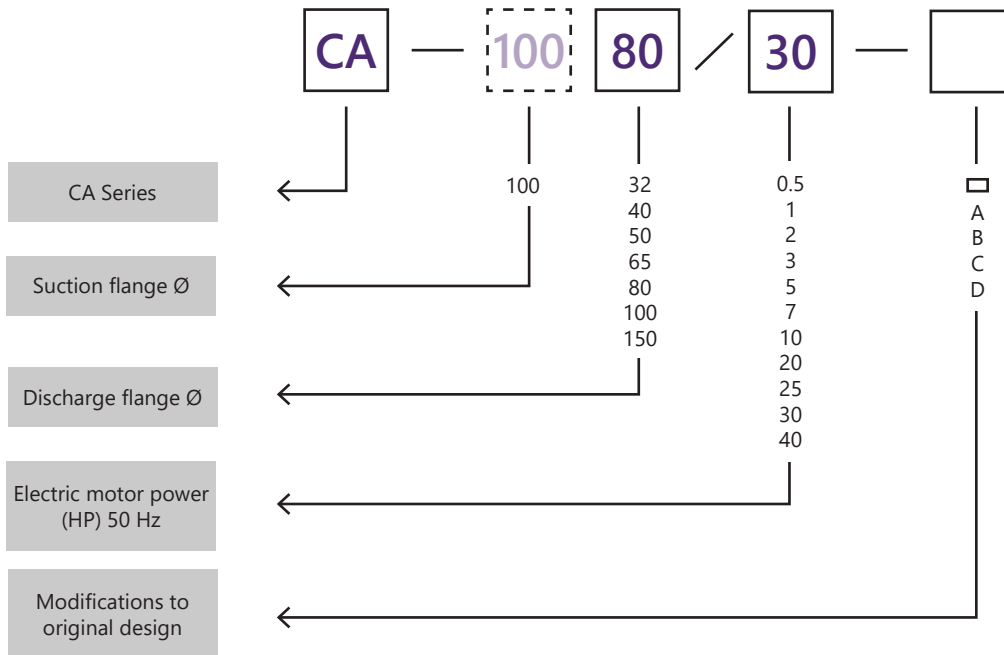


Close coupled version for illustration purposes

### Performance:

Max Flow rate	300 m <sup>3</sup> /h
Max Pressure	105 M
Max Temperature	130°C
Sizes Available	DN1.25" - DN150 Outlet

## Description



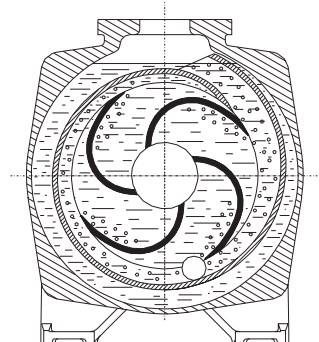
## Self Priming Centrifugal Pumps

### Operation -

The pump must be filled with liquid before the pump is first started. The impeller circulates the liquid inside the pump, causing an air-liquid mixture pumping-compression. The mixture is separated on the diffuser upper part, escaping the gas through the discharge pipe, returning the liquid to the diffuser lower part and creating vacuum on the suction area. This vacuum draws the air from the suction pipe and mixes it with the pump liquid.

Once all the air has been evacuated, the pump gets filled with liquid, operating as a normal centrifugal pump. Furthermore, due to its careful design, when it is stopped, the pump emptying is avoided, keeping enough liquid in pump casing for next start up.

If for any reason an air entrance is produced during operation, the pump gets unprimed and the before mentioned priming cycle is repeated. On the other hand, during pump priming, ensure all discharge valves are open, in order to allow air exit.



### Common Applications -

- Aquaculture
- Ballast
- Bilge
- Cargo
- Cooling
- Deck Washing
- Dredging
- Fire Fighting
- Low Viscosity Fuel Transfer
- Grey Water
- Lubricant
- Marine Fuel
- Pressure Booster
- Sea Water Cooling
- Sea Water Injection
- Sea Water Service
- Sewage
- Waste Water
- Water Circulating
- Water Transfer

### Drive Options -

The CA series pumps can be supplied in:

- Close coupled with electric motor
- Long coupled mounted on base plate via flexible coupling with electric motor
- Diesel / petrol engine
- Hydraulic
- Pneumatic
- Electromagnetic clutch / belt pulley
- Bare shaft

### Benefits -

- Manufactured in Spain by manufacturer with over 100 years' experience, using materials from their own foundry for complete control
- Marine type approved by all classification societies e.g. Lloyds/ABS for independent verification the pump meets quality standards
- Available with semi open impeller for handling soft solids up to 10mm, making it suitable for lightly contaminated fluids
- Self priming pump able to run dry for up to 30 minutes once initially primed - ideal for difficult and long suction conditions
- Interchangeable spare parts with other Azcue models to reduce stock holding required
- Spares available for a minimum of 15 years after model discontinuation for long term servicing even if the pump is no longer produced
- Long service intervals to reduce maintenance costs – 4000-8000 hours with bearing replacement at 35,000 intervals
- Back pull out design for easy maintenance - allows the motor to be removed without disconnecting the pump
- Wearing rings to improve pump efficiency and provide clearance between the casing and impeller, preventing their wear, meaning only the less costly wear rings need replacing
- Separate shafts in pump head and motor - no need to replace entire pump and motor if shaft wears, saving costs
- Additional bearing in the pump head to share the strain of operation and increase robustness which in turn increases performance life
- Close coupled version comes with a lantern bracket to separate the pump head from the motor, so should the seal fail fluid is prevented from entering the motor and causing damage to this part
- ATEX approved version for hazardous environments



### Materials

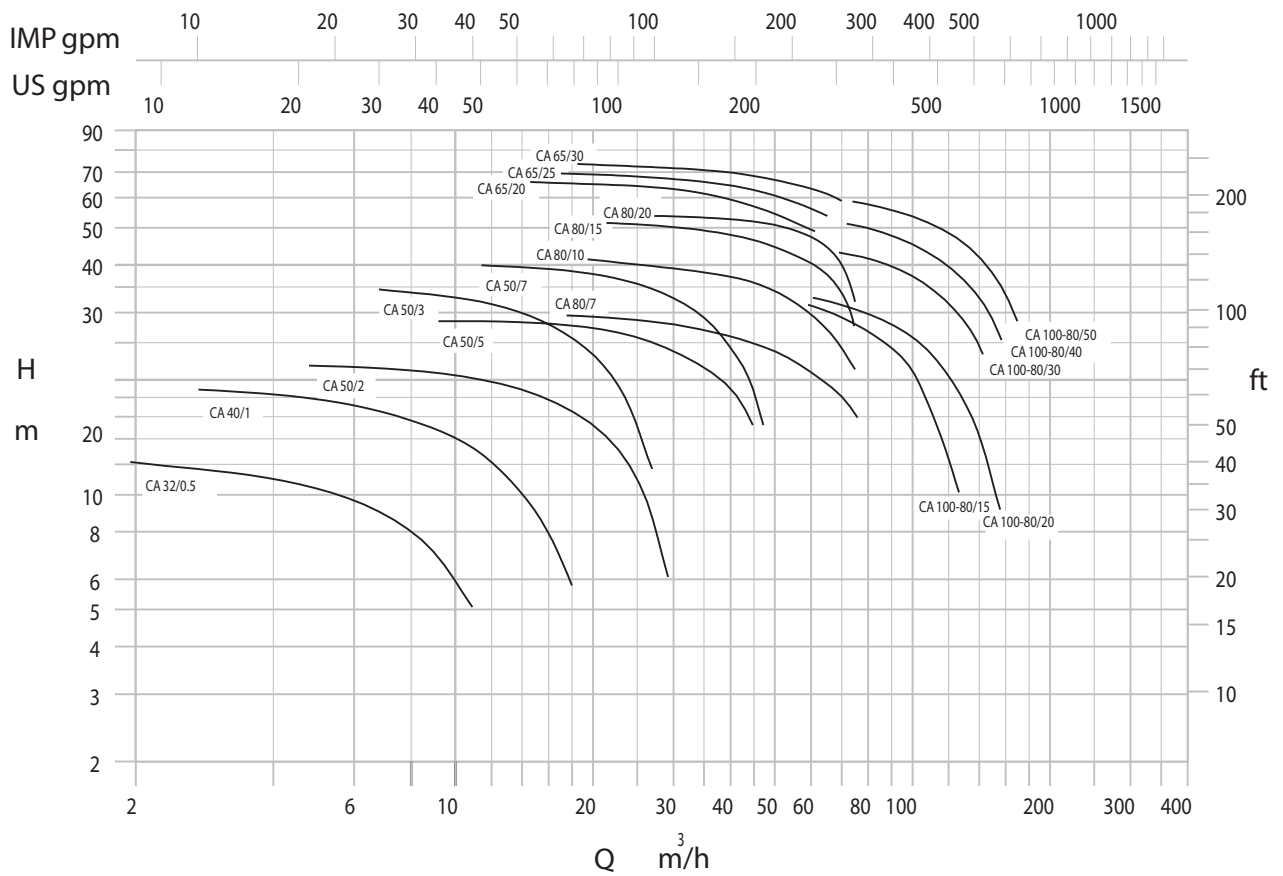
Pump casing	Bronze G-CuSn5ZnPb(Rg5)	GG25	Stainless Steel	Duplex
Cover	Bronze G-CuSn5ZnPb(Rg5)	GG25	Stainless Steel	Duplex
Diffuser	Bronze G-CuSn5ZnPb(Rg5)	GG25	Stainless Steel	Duplex
Impeller	Bronze G-CuSn5ZnPb(Rg5)	GG25	Stainless Steel	Duplex
Shaft	Stainless Steel (Aisi 316)	Stainless Steel (Aisi 316)	Stainless Steel (Aisi 316)	Duplex

Under requirement the different components can be manufactured in various different materials as nodular cast iron GGG 40, bronze Rg10 or aluminium bronze

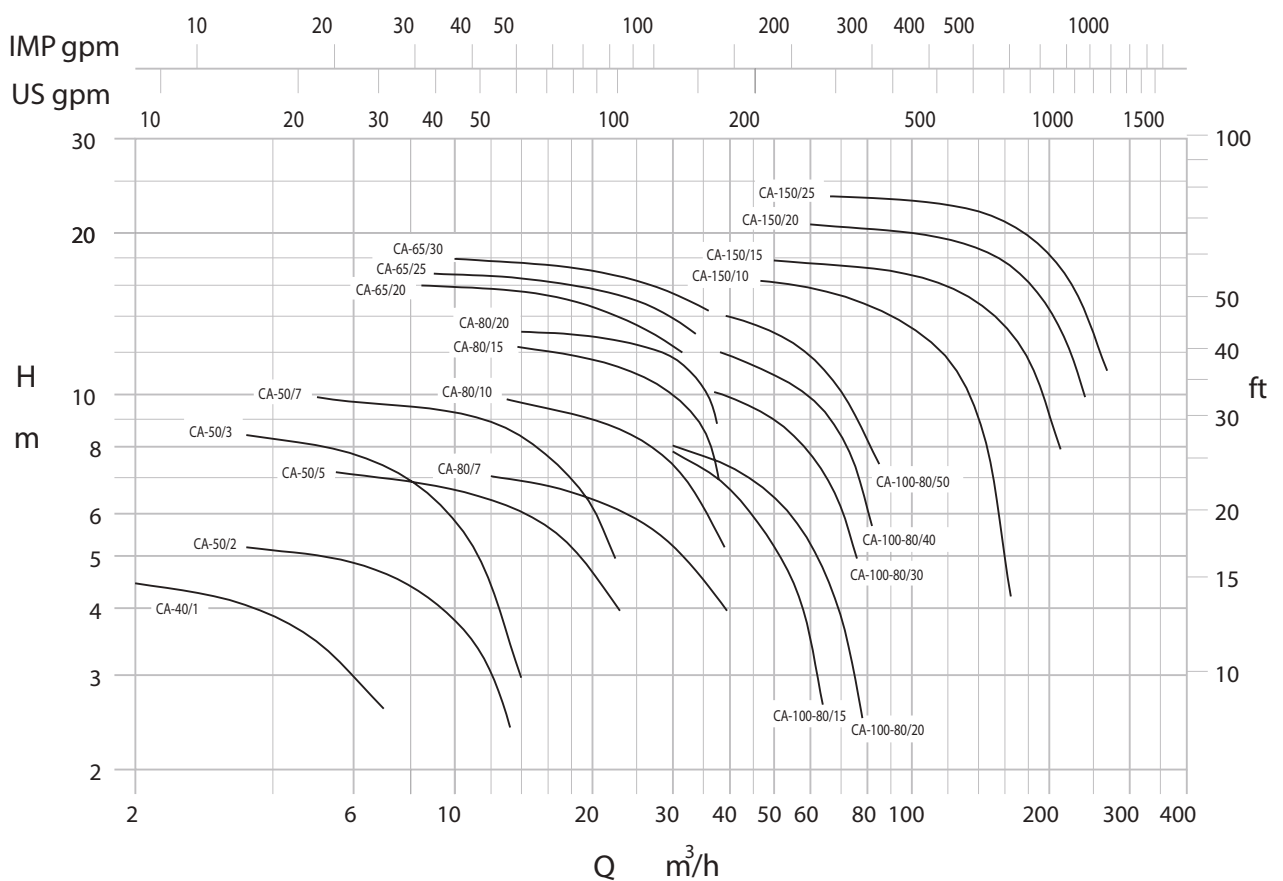


## Performance Curves

2.900 Min<sup>-1</sup>



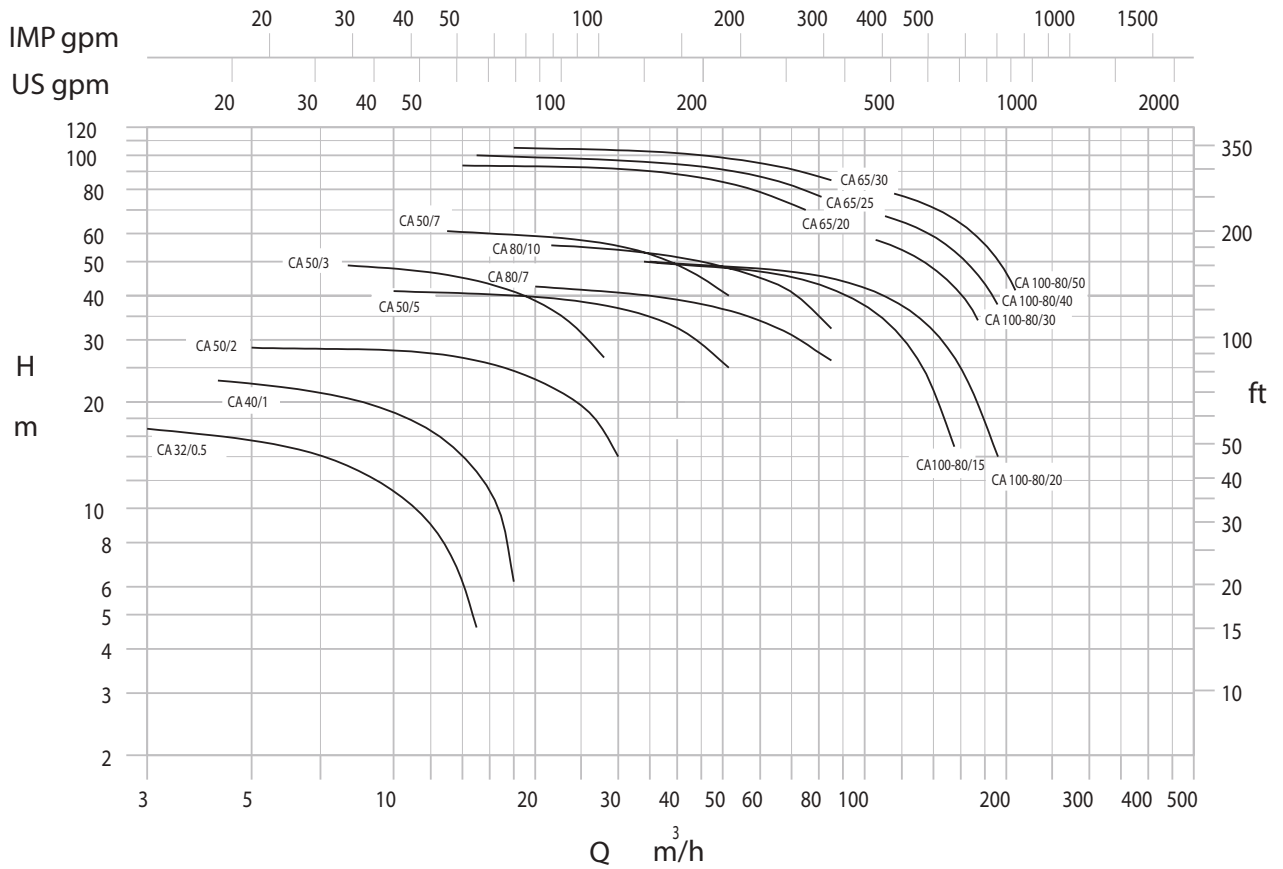
1.450 Min<sup>-1</sup>



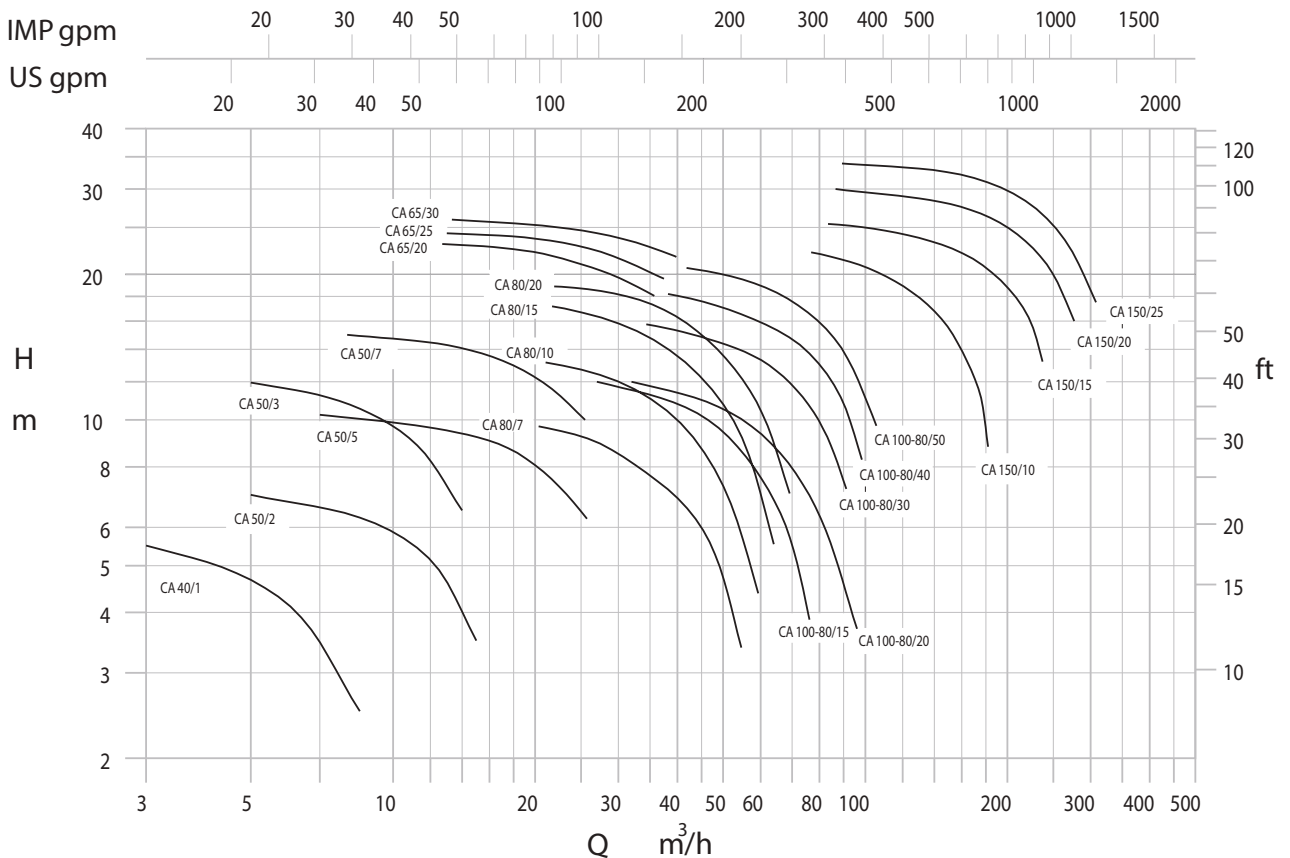


## Performance Curves

3.500 Min<sup>-1</sup>



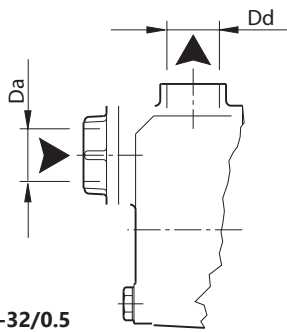
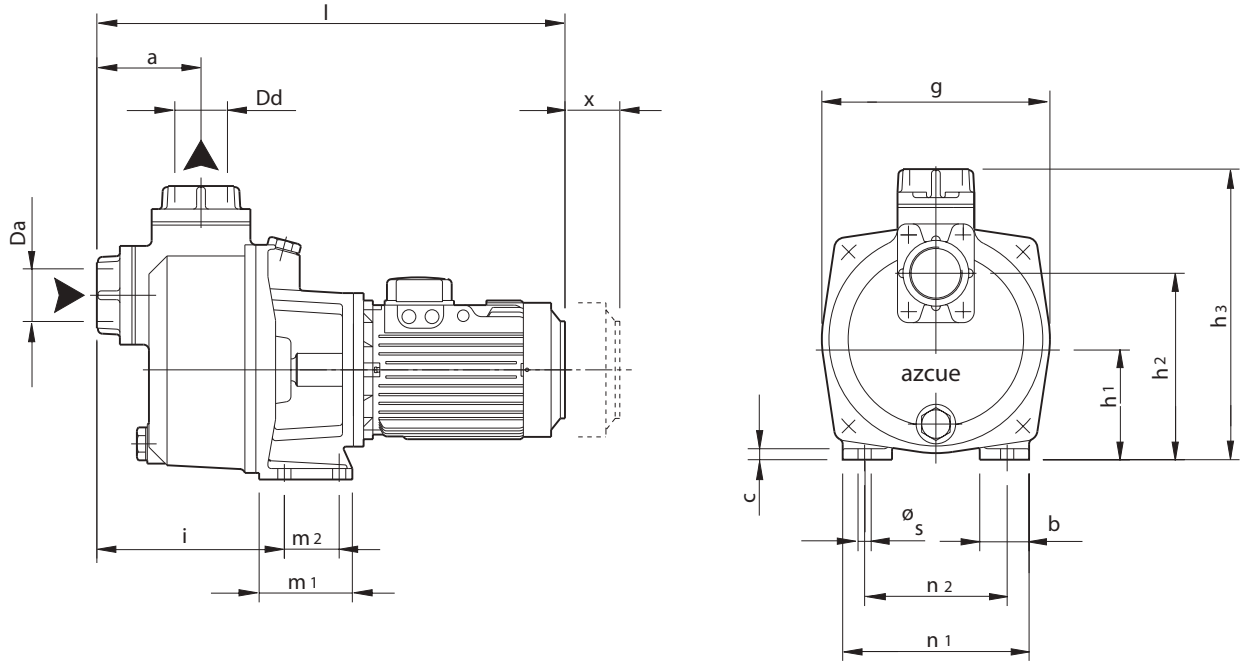
1.750 Min<sup>-1</sup>





**Dimensions**

Close Coupled Version



Type CA-32/0.5

**Note:**  
Types CA-40 and CA-40 have inlet and outlet counter flanges.  
Type CA-32 has inlet counterflange only.

2900 / 3500 r.p.m

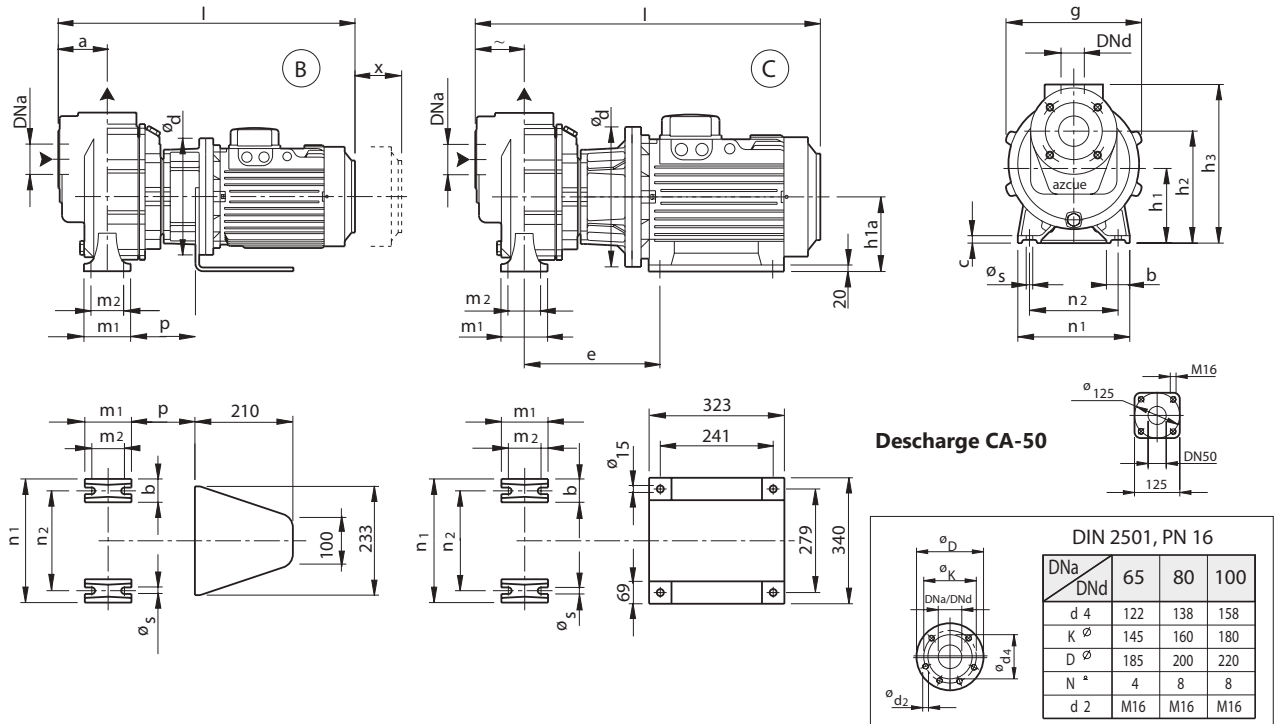
Type	Motor			Da	Dd	a	i	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	g	b	c	s	m <sub>1</sub>	m <sub>2</sub>	n <sub>1</sub>	n	x	l	kg	
	KW	HP	Tipo																			
CA-32/0,5	0,37	0,5	71-a	1 1/4" G	1 1/4" G	90	150	90	150	207	178	40	9	10	60	30	140	100	50		400	18
	0,75	1	80-a																		430	20
	1,1	1,5	80-b																			
CA-40/1A	0,75	1	80-a	1 1/2" G	1 1/2" G	95	175	100	168	265	208	45	10	12	85	45	170	130	50		465	26
	1,1	1,5	80-b																		500	30
	1,5	2	90-S																			
CA-50/2A	1,5	2	90-S	2" G	2" G	88	174	112	190	280	238	45	10	12	85	45	200	160	50		510	34
	2,2	3	90-L																		510	36
	3	4	100-L																		550	41
CA-50/3A	2,2	3	90-L	2" G	2" G	88	174	112	190	280	238	45	10	12	85	45	200	160	50		510	36
	3	4	100-L																		510	36
	4	5,5	112-M																		550	41

Subject to alterations

## Dimensions

### Close Coupled Version

2900 / 3500 r.p.m



Type	Motor			DNa	DNd	a	e	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>1a</sub>	g	b	c	s	m <sub>1</sub>	m <sub>2</sub>	p	n <sub>1</sub>	n <sub>2</sub>	x	d	l	kg
	KW	HP	Forma																					
CA-50/5A	4	5,5	B	65	50	105	-	160	240	340	-	290	50	18	14	100	70	135	240	190	75	250	625	80
	7,5	10																						
CA-50/7A	5,5	7,5	B	65	50	105	-	190	270	370	-	290	100	18	14	100	70	150	340	290	75	350	895	130
	11	15																						
CA65/15A	11	15	B	65	65	120	-	190	300	400	-	345	65	18	14	125	95	150	320	250	100	350	920	160
18,5	25																							
CA-65/20A	15	20	C	65	65	120	392	190	300	400	180	345	65	18	14	125	95	-	320	250	100	350	970	210
	22	30																						
CA-65/25A	18,5	25	B	65	65	120	-	190	300	400	-	345	65	18	14	125	95	150	320	250	100	350	920	180
CA-65/30A	22	30	C	65	65	120	392	190	300	400	180	345	65	18	14	125	95	-	320	250	100	350	970	210
CA-80/7A	5,5	7,5	B	80	80	135	-	190	285	395	-	325	65	18	14	125	95	145	280	212	75	300	755	115
	11	15																						
CA-80/10A	7,5	10	B	80	80	135	-	190	285	395	-	325	65	18	14	125	95	145	280	212	75	350	930	150
	15	20																						
CA-80/15A	11	15	B	80	80	135	-	190	285	395	-	325	65	18	14	125	95	145	280	212	75	350	930	150
	18,5	25																						
CA-80/20A	15	20	C	80	80	135	386	190	285	395	180	325	65	18	14	125	95	-	280	212	75	350	980	200
	22	30																						
CA-100-80/15A	11	15	B	100	80	153	-	190	313	430	-	345	65	18	14	125	95	160	320	250	100	350	965	160
	18,5	25																						
CA-100-80/20A	15	20	B	100	80	153	-	190	313	430	-	345	65	18	14	125	95	160	320	250	100	350	965	170
	22	30																						
CA-100-80/30A	22	30	C	100	80	153	402	190	313	430	180	345	65	18	14	125	95	-	320	250	100	350	1015	210

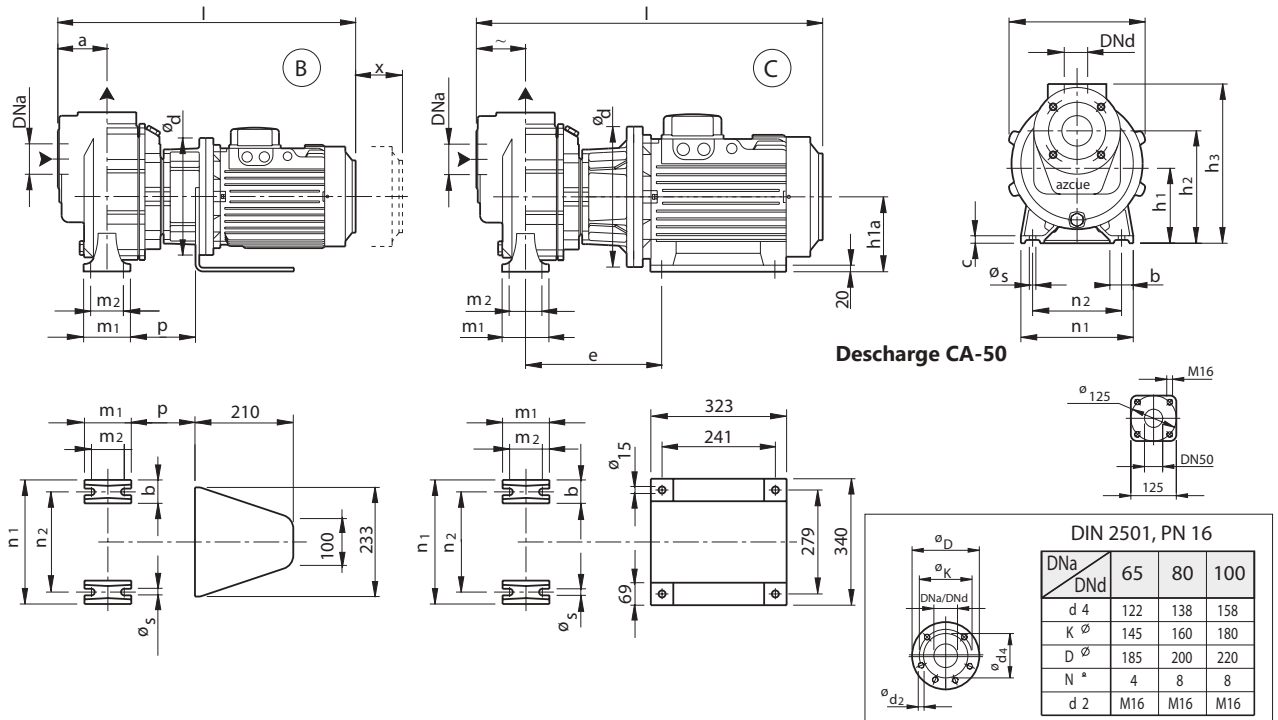
Ref. CA-997/1

Subject to alterations

## Dimensions

### Close Coupled Version

1450 / 1750 r.p.m



Type	Motor		Forma	DNa	DNd	a	e	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>1a</sub>	g	b	c	s	m <sub>1</sub>	m <sub>2</sub>	p	n <sub>1</sub>	n <sub>2</sub>	x	d	l	kg
	KW	HP																						
CA-50/5A	0,55	0,75	B	65	50	105	-	160	240	340	-	290	50	18	14	100	70	-	240	190	75	200	540	65
	0,75	1																						
CA-50/7A	0,75	1	B	65	50	105	-	160	240	340	-	290	50	18	14	100	70	-	240	190	75	200	540	70
	1,1	1,5																						
CA-65/20A	2,2	3	B	65	65	120	-	190	300	400	-	345	65	18	14	125	95	135	320	250	100	250	655	110
	3	4																						
CA-65/25A	3	4	B	65	65	120	-	190	300	400	-	345	65	18	14	125	95	135	320	250	100	250	655	110
	4	5,5																						
CA-65/30A	3	4	B	65	65	120	-	190	300	400	-	345	65	18	14	125	95	135	320	250	100	250	655	110
	4	5,5																						
CA-80/7A	1,5	2	B	80	80	135	-	190	285	395	-	325	65	18	14	125	95	130	280	212	75	200	610	95
	2,2	3																						
CA-80/10A	2,2	3	B	80	80	135	-	190	285	395	-	325	65	18	14	125	95	130	280	212	75	250	660	100
	3	4																						
CA-80/15A	2,2	3	B	80	80	135	-	190	285	395	-	325	65	18	14	125	95	130	280	212	75	250	660	100
	3	4																						
CA-80/20A	3	4	B	80	80	135	-	190	285	395	-	325	65	18	14	125	95	130	280	212	75	250	660	100
	4	5,5																						
CA-100-80/15A	2,2	3	B	100	80	153	-	190	313	430	-	345	65	18	14	125	95	145	320	250	100	250	695	110
	3	4																						
CA-100-80/20A	2,2	3	B	100	80	153	-	190	313	430	-	345	65	18	14	125	95	145	320	250	100	250	695	110
	3	4																						
CA-100-80/30A	3	4	B	100	80	153	-	190	313	430	-	345	65	18	14	125	95	145	320	250	100	250	695	110
	4	5,5																						
CA-100-80/40A	3	4	B	100	80	153	-	190	313	430	-	345	65	18	14	125	95	145	320	250	100	250	695	110
	5,5	7,5																						
CA-100-80/50A	5,5	7,5	B	100	80	153	-	190	313	430	-	345	65	18	14	125	95	160	320	250	100	300	790	130
	7,5	10																						

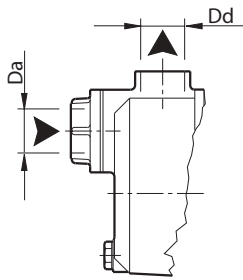
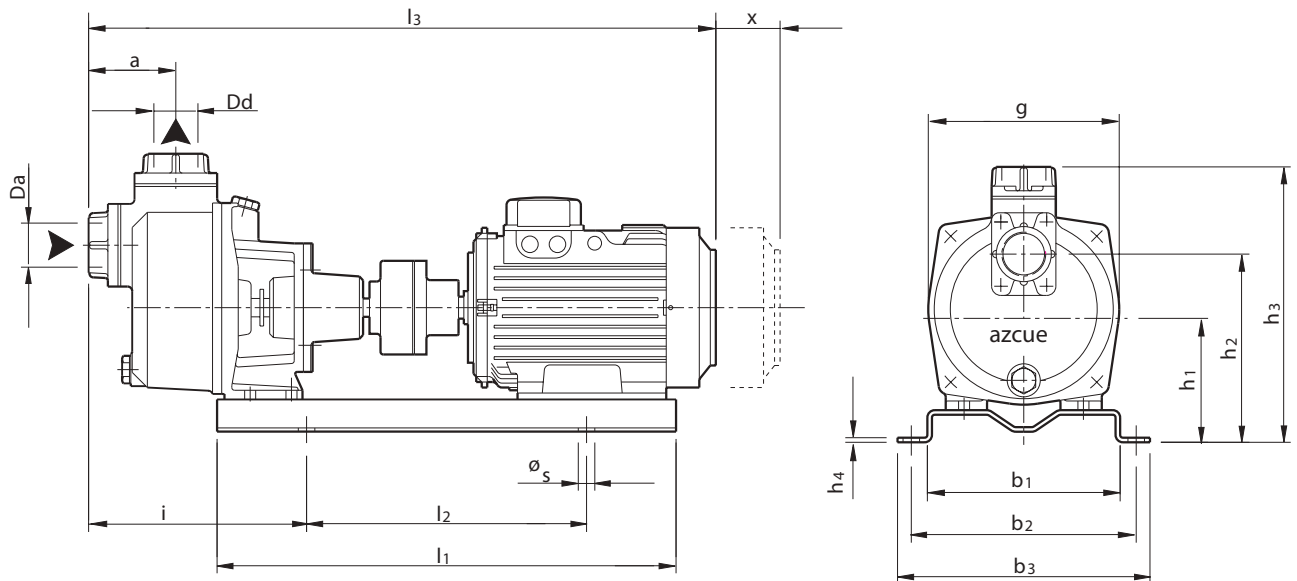
Ref. CA-997/2

Subject to alterations



## Dimensions

### Long Coupled Base Support Version



**Type CA-32/0.5**

**Note:**  
 Types CA-40 and CA-40 have inlet and outlet counter flanges.  
 Type CA-32 has inlet counterflange only.

**2900 / 3500 r.p.m**

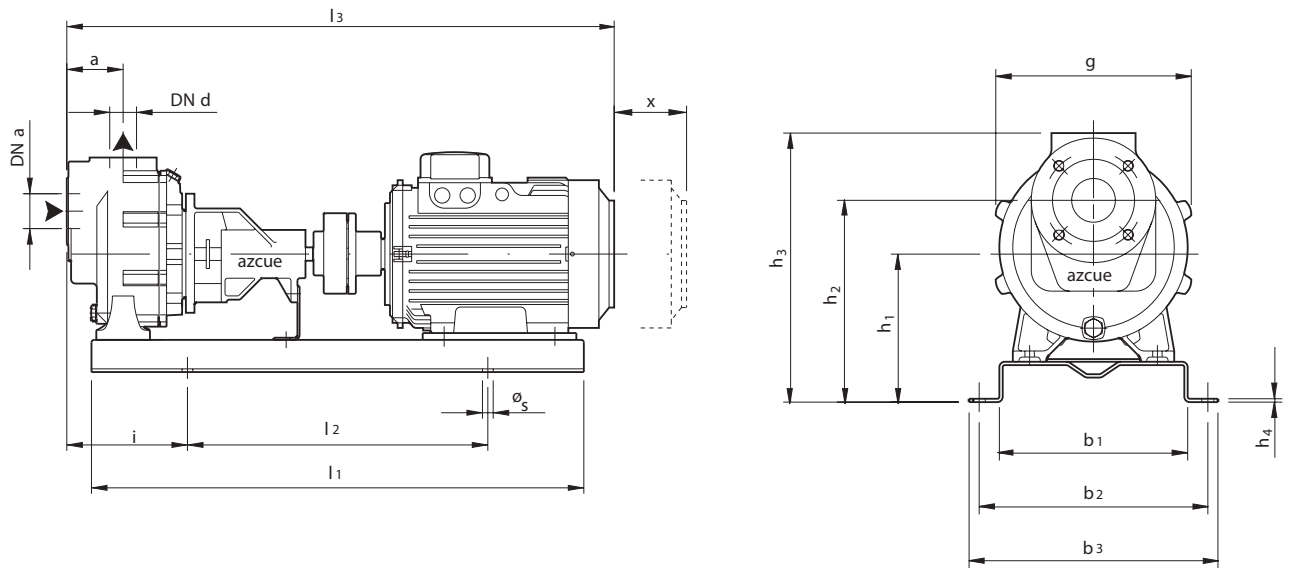
Type	Motor			Da	Dd	a	i	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub>	b <sub>1</sub>	b <sub>2</sub>	b <sub>3</sub>	s	g	x	l <sub>1</sub>	l <sub>2</sub>	l	kg
	KW	HP	Tipo																		
CA-32/0,5	0,37	0,5	71-a	1 1/4" G	1 1/4" G	90	205	125	185	242	4	210	245	275	18	178	50	500	305	580	34
	0,75	1	80-a																	610	38
	1,1	1,5	80-b																		
CA-40/1A	0,75	1	80-a	1 1/2" G	1 1/2" G	95	220	135	203	300	4	210	245	275	18	208	50	500	305	640	46
	1,1	1,5	80-b																	685	50
	1,5	2	90-S																		
CA-50/2A	1,5	2	90-S	2" G	2" G	88	240	147	225	315	4	210	245	275	18	238	50	500	305	58	
	2,2	3	90-L																	685	62
	3	4	100-L																	725	68
CA-50/3A	2,2	3	90-L	2" G	2" G	88	240	147	225	315	4	210	245	275	18	238	50	500	305	685	62
	3	4	100-L																	725	68
	4	5,5	112-M																	250	152

Ref. 828-CA3205-078

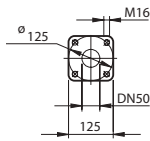
Subject to alterations

## Dimensions

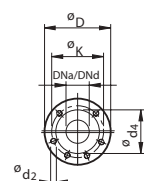
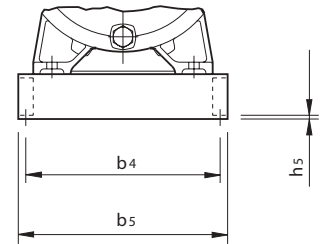
### Long Coupled Base Support Version



#### Discharge CA-50



		DIN 2501, PN16				
DNa	DNd	65	80	100	125	150
d 4		122	138	158	188	212
K ø		145	160	180	210	240
D ø		185	200	220	250	285
N *		4	8	8	8	8
d 2		M16	M16	M16	M16	M20

2900 / 3500 r.p.m

Ref. CA-993/1/2

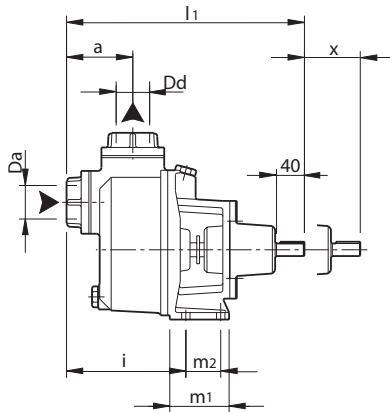
Type	Motor		DNa	DNd	a	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub>	h <sub>5</sub>	b <sub>1</sub>	b <sub>2</sub>	b <sub>3</sub>	b <sub>4</sub>	b <sub>5</sub>	s	i	g	x	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	kg
	KW	HP																					
CA-50/5A	4	5,5	65	50	105	220	300	400	7	-	270	320	350	-	-	18	190	290	75	800	500	900	120
	7,5	10																					
CA-50/7A	5,5	7,5	65	50	105	220	300	400	7	-	310	360	390	-	-	18	195	290	75	1000	690	1175	150
	11	15																					
CA-65/15A	11	15	65	65	120	250	360	460	7	-	380	440	470	-	-	18	198	345	100	1100	700	1205	220
	18,5	25																					
CA-65/20A	15	20	65	65	120	250	360	460	7	-	380	440	470	-	-	18	198	345	100	1100	700	1205	210
	22	30																					
CA-65/25A	18,5	25	65	65	120	310	420	520	-	10	-	-	-	380	420	20	293	345	100	1200	700	1325	350
	30	40																					
CA-65/25A	30	40	65	65	120	310	420	520	-	10	-	-	-	380	420	20	293	345	100	1200	700	1325	350
	22	30																					
CA65/30A	22	30	65	65	120	310	420	520	-	10	-	-	-	380	420	20	293	345	100	1200	700	1325	350
	30	40																					

Subject to alterations

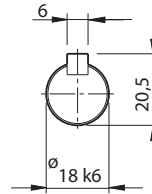


## Dimensions

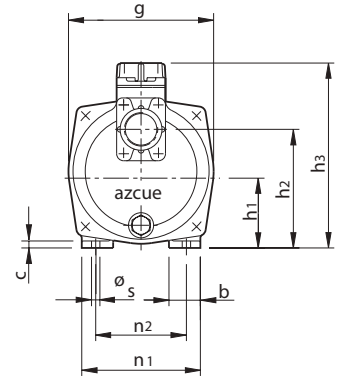
### Bare Shaft & Clutch Version



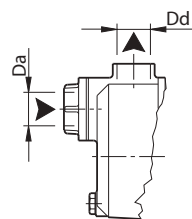
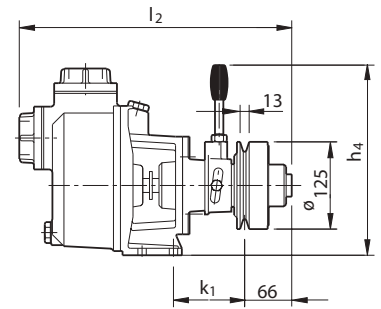
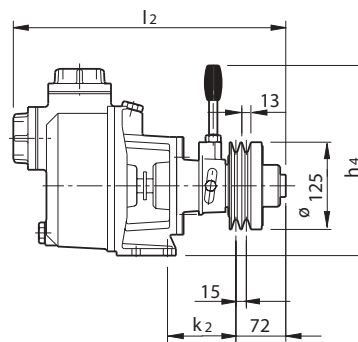
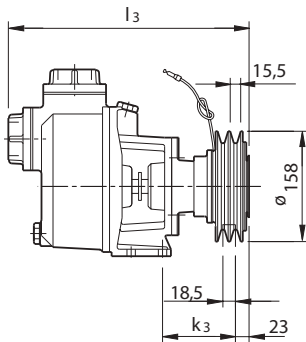
2 A type belts, with magnetic clutch



2 A type belts, with mechanic clutch



1 A type belt, with mechanic clutch



Type CA-32/0.5

**Note:**  
 Types CA-40 and CA-50 have inlet and outlet counter flanges.  
 Type CA-32 has inlet counterflange only.

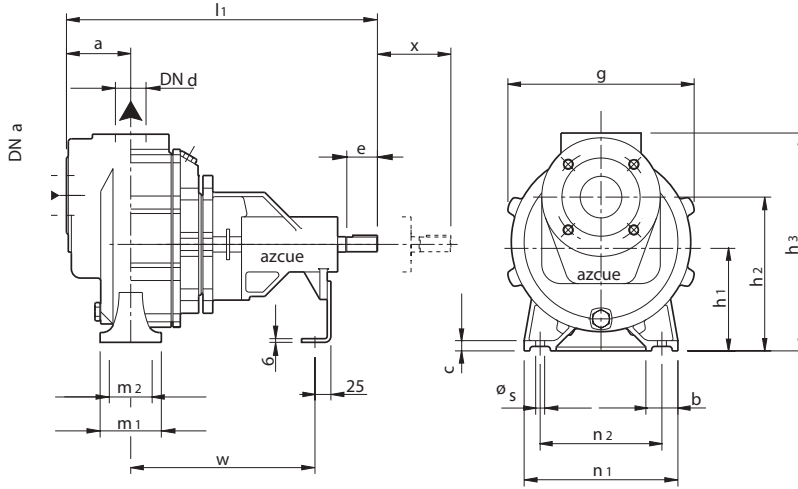
Type	Da	Dd	a	i	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub>	g	b	c	s	m <sub>1</sub>	m <sub>2</sub>	n <sub>1</sub>	n <sub>2</sub>	x	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	k <sub>1</sub>	k <sub>2</sub>	k <sub>3</sub>	kg
CA-32/0,5	1 1/4" G	1 1/4" G	90	150	90	150	207	275	178	40	9	10	60	30	140	100	50	300	352	305	104	96	102	18
CA-40/1A	1 1/2" G	1 1/2" G	95	175	100	168	265	285	208	45	10	12	85	45	170	130	50	340	392	345	106	98	102	26
CA-50/2A	2" G	2" G	88	174	112	190	280	297	238	45	10	12	85	45	200	160	50	350	402	355	106	98	104	34
CA-50/3A																								36

Ref. 830-CA3205-076

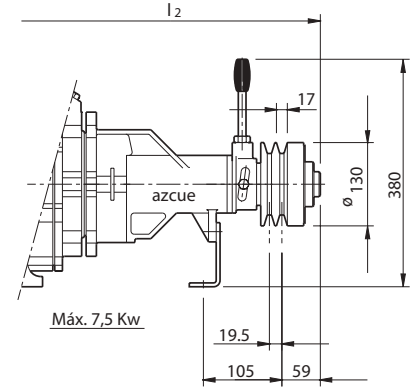
Subject to alterations

## Dimensions

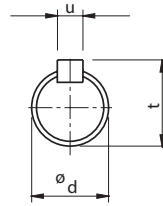
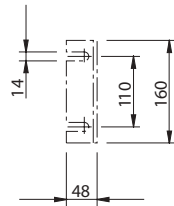
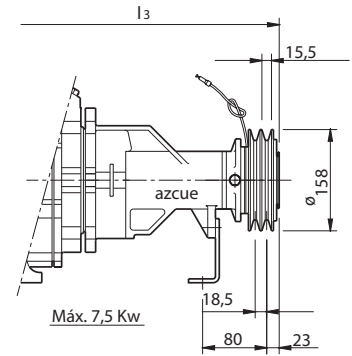
### Bare Shaft & Clutch Version



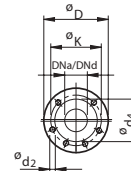
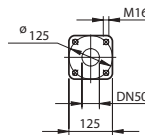
### 2 A type belts, with mechanic clutch



### 2 A type belts, with magnetic clutch



### Descharge CA-50



### DIN 2501, PN16

DNa / DNd	65	80	100	125	150
d 4	122	138	158	188	212
K ø	145	160	180	210	240
D ø	185	200	220	250	285
N *	4	8	8	8	8
d 2	M16	M16	M16	M16	M20

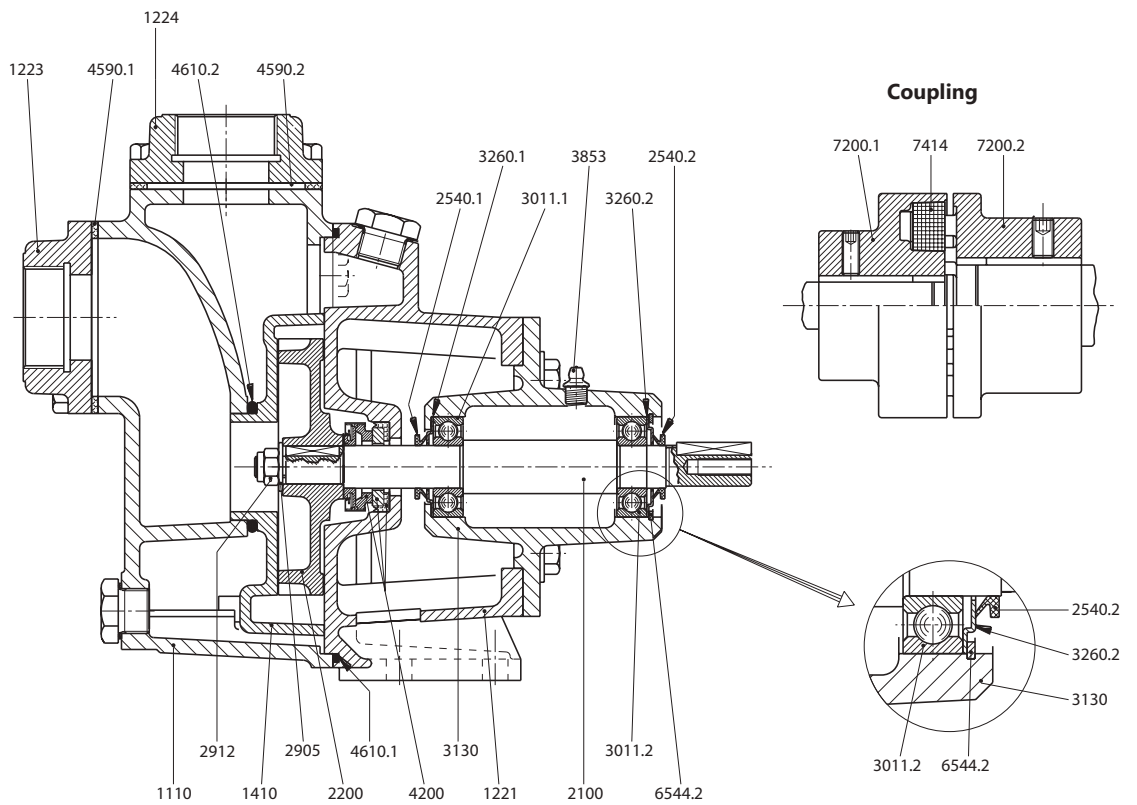
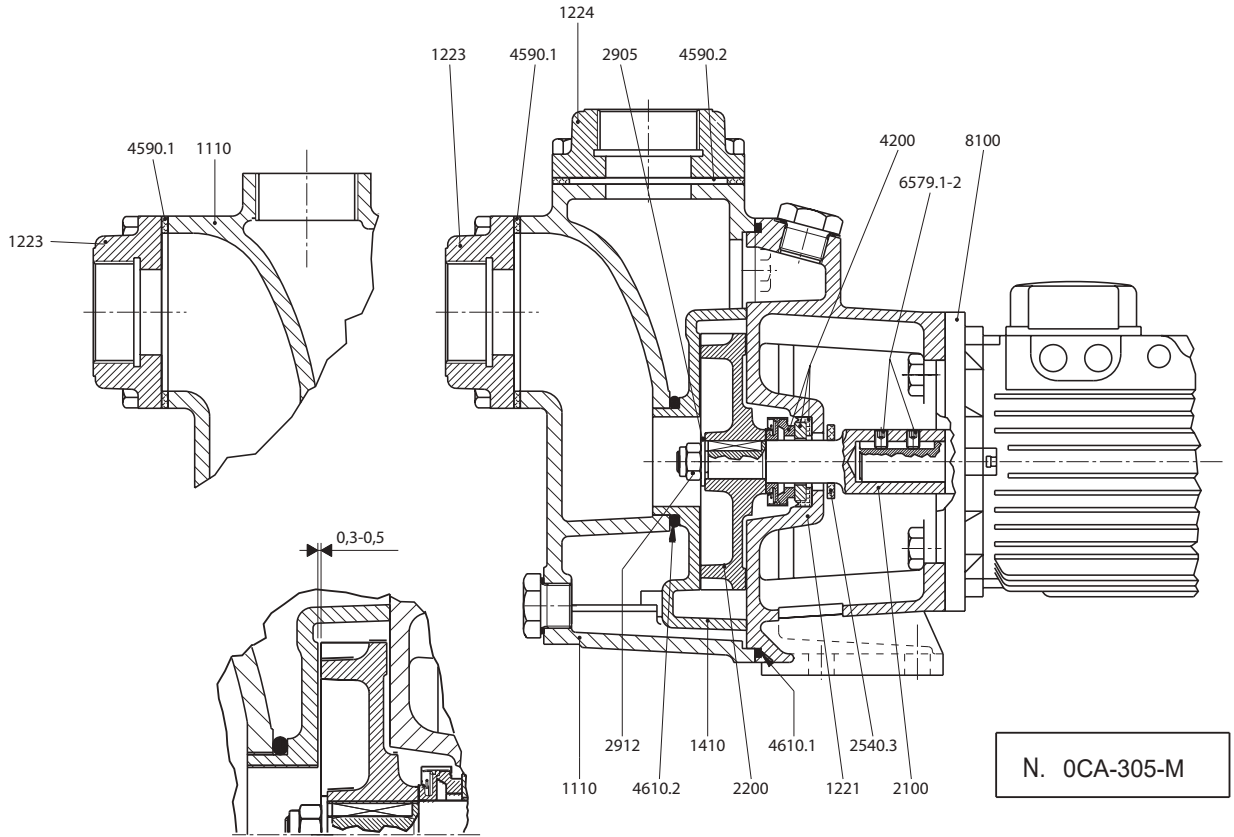
Type	DNa	DNd	a	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	g	b	c	s	m <sub>1</sub>	m <sub>2</sub>	n <sub>1</sub>	n <sub>2</sub>	w	d	e	t	u	x	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	kg
CA-50/..A	65	50	105	160	240	340	290	50	15	14	100	70	240	190	305	24	50	26,9	8	75	510	580	520	52
CA-65/..A	65	65	120	190	300	400	345	65	18	14	125	95	320	250	319	24	50	26,9	8	100	539	609	549	80
CA-80/..A	80	80	135	190	285	395	325	65	18	14	125	95	280	212	313	24	50	26,9	8	75	548	618	558	70
CA-100-80/..A	100	80	153	190	313	430	345	65	18	14	125	95	320	250	329	24	50	26,9	8	100	582	-	-	80
CA-150/..A	150	150	170	225	400	590	490	80	20	24	160	120	435	355	392	42	115	45,1	12	100	722	-	-	190

Subject to alterations

Ref. CA-996

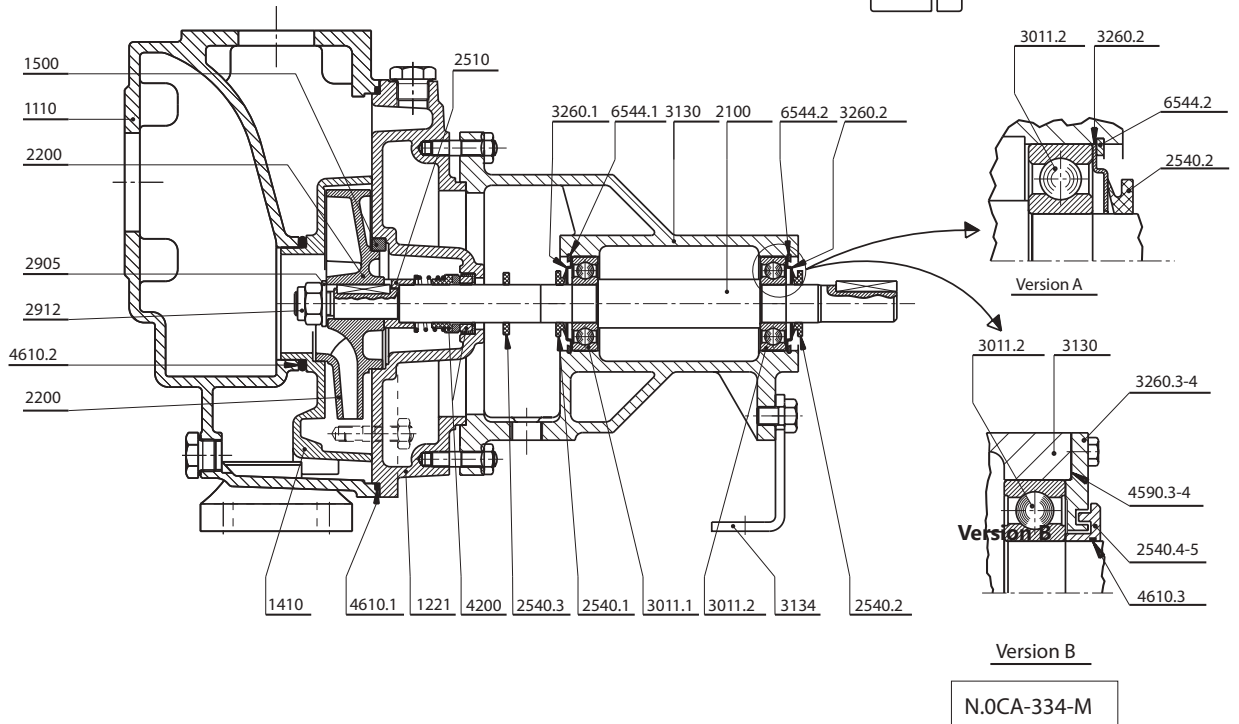
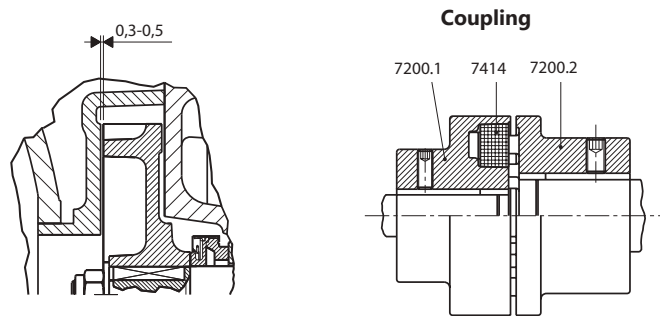
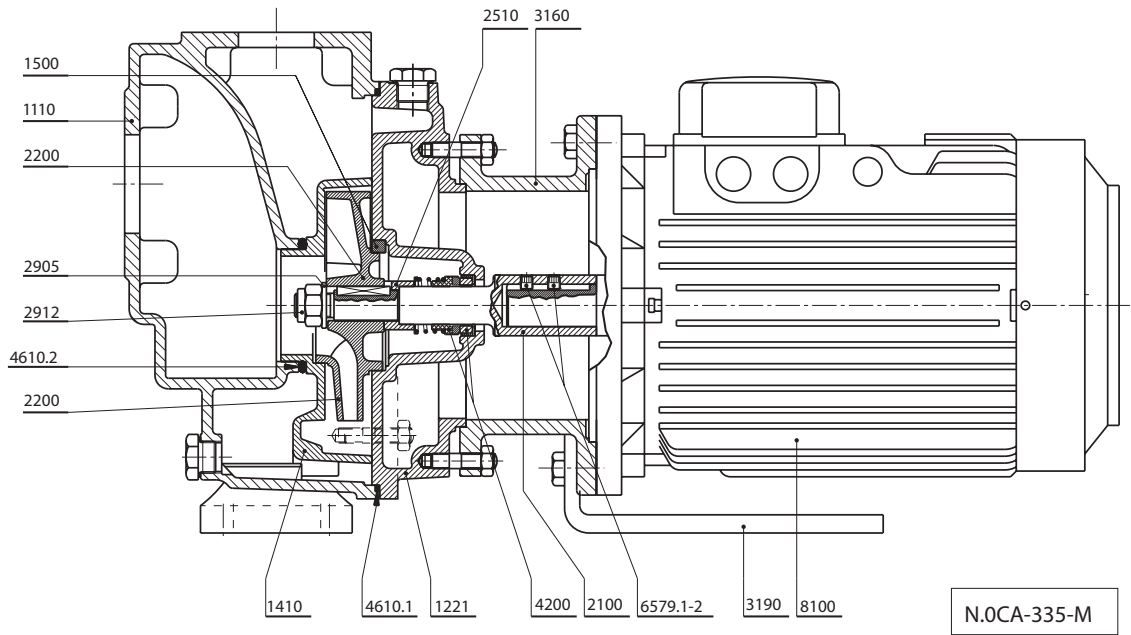
**Sectional Drawing**

Types CA-32, CA-40, CA-50/2A-3A



**Sectional Drawing**

Types CA-32, CA-40, CA-50/2A-3A



## Sectional Drawing

DESCRIPTION	Ref.
Pump casing	1110
Casing cover	1221
Suction cover	1223
Discharge cover	1224
Diffuser	1410
Casing wear ring	1500
Shaft	2100
Impeller	2200
Spacer ring	2510
Thrower	2540.1-2
Thrower	2540.3
Thrower	2540.4-5
Washer	2905
Impeller nut	2912
Radial ball bearing	3011.1-2
Bearing bracket	3130
Support foot	3134
Motor stool	3160
Foot	3190
Bearing cover	3260.1-2
Bearing cover	3260.3-4
Grease nipple	3853
Mechanical seal	4200
Gasket	4590.1
Gasket	4590.2
Gasket	4590.3-4
O-ring	4610.1
O-ring	4610.2
O-ring	4610.3
Circlip	6544.1-2
Socket head cap screw	6579.1-2
Coupling half	7200.1
Coupling half	7200.2
Coupling bush	7414
Motor	8100

Version	TYPES
Version A	CA-50 / 5-7, CA-65, CA-80, CA-100-80
Version B	CA-150

## Spares Interchangeability

Description	Casing	Impeller	Shaft	Diffuser	Bearing bracket	Ball bearings	Mechanical seal	Casing cover	Cover o'ring	Diffuser o'ring	Impeller nut	
Reference	1110	2200	2100	1410	3130	3011.1-2	4200	1221	4610.1	4610.2	2912	
PUMPTYPE	CA-32/0,5	1	1 - O	1	1	1	1	1	1	2	1	
	CA-40/1A	2	2 - O	2	2	2	1	2	2	3	4	1
	CA-50/2A	3	3 - O	2	3	2	1	2	3	5	6	1
	CA-50/3A	3	4 - O	2	4	2	1	2	3	5	6	1
	CA-50/5A	4	5 - O	3	5	3	2	3	4	7	8	2
	CA-50/7A	4	6 - O	3	6	3	2	3	4	7	8	2
	CA-65/20A	5	7 - C	3	7	3	2	3	5	9	10	2
	CA-65/25A	5	8 - C	3	8	3	2	3	5	9	10	2
	CA-65/30A	5	9 - C	3	9	3	2	3	5	9	10	2
	CA-80/7A	6	10 - O	3	10	3	2	3	6	11	12	2
	CA-80/10A	6	11 - C	3	11	3	2	3	6	11	12	2
	CA-80/15A	6	12 - C	3	12	3	2	3	6	11	12	2
	CA-80/20A	6	13 - C	3	13	3	2	3	6	11	12	2
	CA-100-80/15A	7	14 - O	3	14	3	2	3	5	9	13	2
	CA-100-80/20A	7	15 - O	3	14	3	2	3	5	9	13	2
	CA-100-80/30A	7	16 - C	3	15	3	2	3	5	9	13	2
	CA-100-80/40A	7	17 - C	3	16	3	2	3	5	9	13	2
	CA-100-80/50A	7	18 - C	3	17	3	2	3	5	9	13	2
CA-150/10A	8	19 - O	4	18	4	3	4	7	14	15	3	
CA-150/15A	8	20 - O	4	19	4	3	4	7	14	15	3	
CA-150/20A	8	21 - O	4	20	4	3	4	7	14	15	3	
CA-150/25A	8	22 - O	4	21	4	3	4	7	14	15	3	

O = Open | C = Closed