



**AK**  
Flow Pumps



**ACH,ACHF,ACHT**  
Horizontal Multistage  
Centrifugal Pump, 50Hz

# General Data

Performance scope	page	5
Curve conditions		5
Application		6
Applicable medium		6
Operating conditions		6
Pump		6
Connection		6
Definition of model		7
Electric motor		7
Material list <b>ACH</b>		8
Material list <b>ACHF</b> and <b>ACHT</b>		9

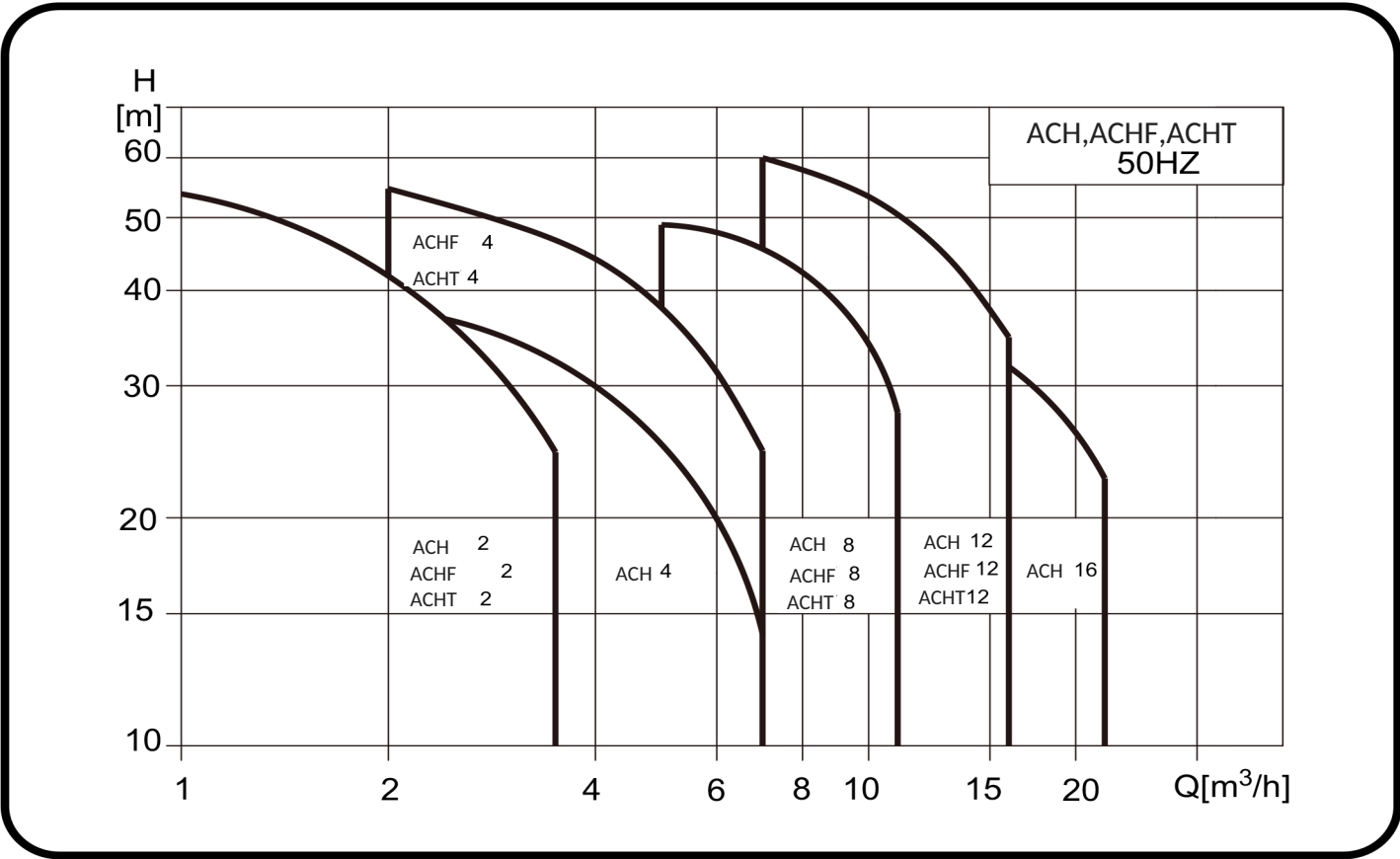
# Technical Data

ACH 2	page	10
ACH 4		11
ACH 8		12
ACH 12		13
ACH 16		14
ACHF / ACHT 2		15
ACHF / ACHT4		16
ACHF / ACHT 8		17
ACHF / ACHT12		18

## Horizontal Multistage Pumps -AK Series

AK FLOW horizontal multistage pumps ACH, ACHF& ACHT with pumping pressure upto 60 meter and flow upto 22m<sup>3</sup>/h. All essential parts, such as shaft, impellers and intermediate chambers are made of fully stainless steel AISI 304 (W-Nr.1.43.01) while the suction and discharge are in cast iron for ACHF. ACH & ACHT pumps are fully stainless steel including the suction and discharge parts. The pumps are equipped with mechanical seal silicon carbide/carbon. The pumps have got high efficiency.

# Performance Ranges



## Curve conditions

Following conditions are suitable for the performance curves shown above

- All the performance curves are based on the measured values of a motor 3 x 380V - 415V at a constant speed of 2900 rpm
- Curve tolerance in conformity with ISO9906, appendix A
- Measurement is done with 20°C air-free water, kinematic viscosity of 1mm²/sec
- The operation of pump shall refer to the performance region described by the thickened curve to prevent overheating due to too small flow rate or overload of motor due to too large flow rate.

## Application

ACH,ACHF and ACHT type pump are mainly used in industrial field:

- Air-conditioning system
- Cooling system
- Industrial cleaning
- Water treatment (Water purification)
- Aquiculture
- Fertilizing / metering system
- Environmental application
- Other special applications

## Applicable medium

- Thin and clean non-flammable and non-explosive liquid without solid granules and fibers.
- Mineral water, soft water, pure water, edible vegetable oil and other light chemical mediums.
- When the density or viscosity of to-be-conveyed liquid is larger than that of water, it is necessary to select a driving motor of high-power.
- Whether a specific liquid is suitable for the pump depends on many factors, among which the most important ones are chlorine content, PH value, temperature, solvent and oil content.

## Operation conditions

Liquid (normal) temperature type: -15°C to +70°C.

- Hot water type: +70°C to 110°C.
- Highest ambient temperature: up to +52°C.
- Max. operation pressure: 10 bar.
- Max. inlet pressure is limited by max. operation pressure.

## Pump

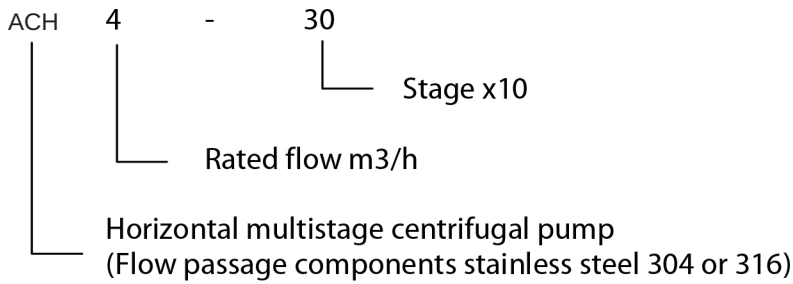
- Horizontal multistage non-self-priming centrifugal pump, attached with long shaft electric motor.
- Compact structure renders small size of pump; axial inlet and radial outlet

## Connection port

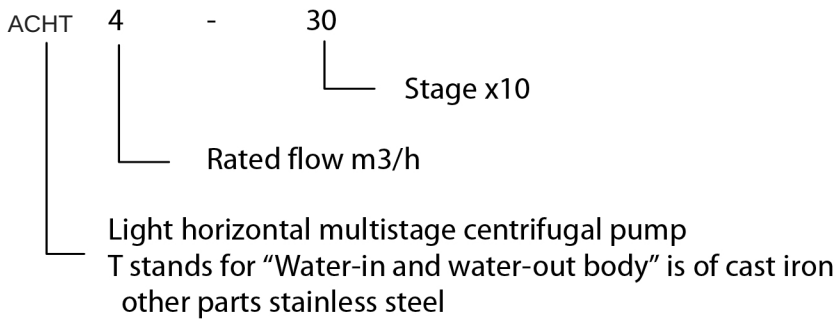
Connection port	ACH,ACHF ACHT 2	ACH,ACHF ACHT 4	ACH 8,12,16	ACHF 8 iACHT 8	ACHF 12 iACHT 12
Inlet	G1	G 1 ¼	G2	G 1 ½	G 1 ½
Outlet	G1	G1	G2	G 1 ¼	G 1 ½

# Definition of Model

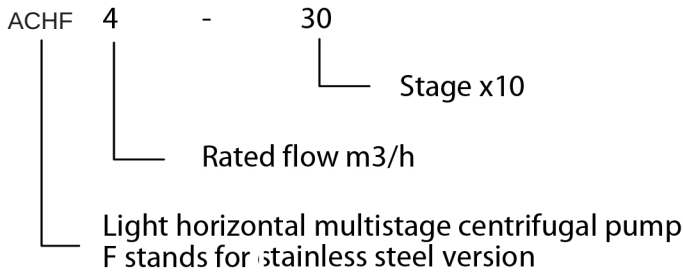
## ACH Example



## ACHT Example



## ACHF Example

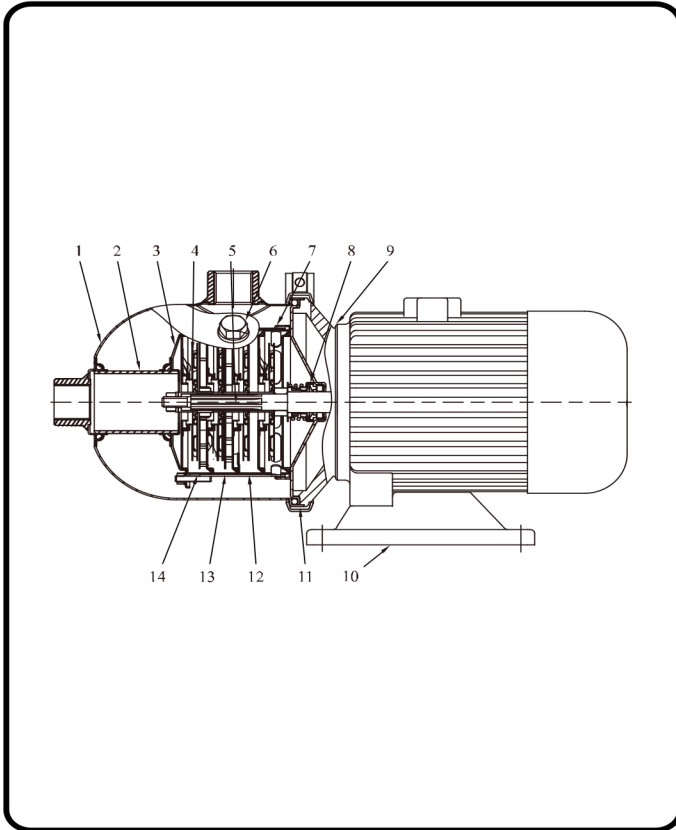


# Electric Motor

The pump is fitted with a totally enclosed, fan-cooled squirrel-cage 2 pole motor

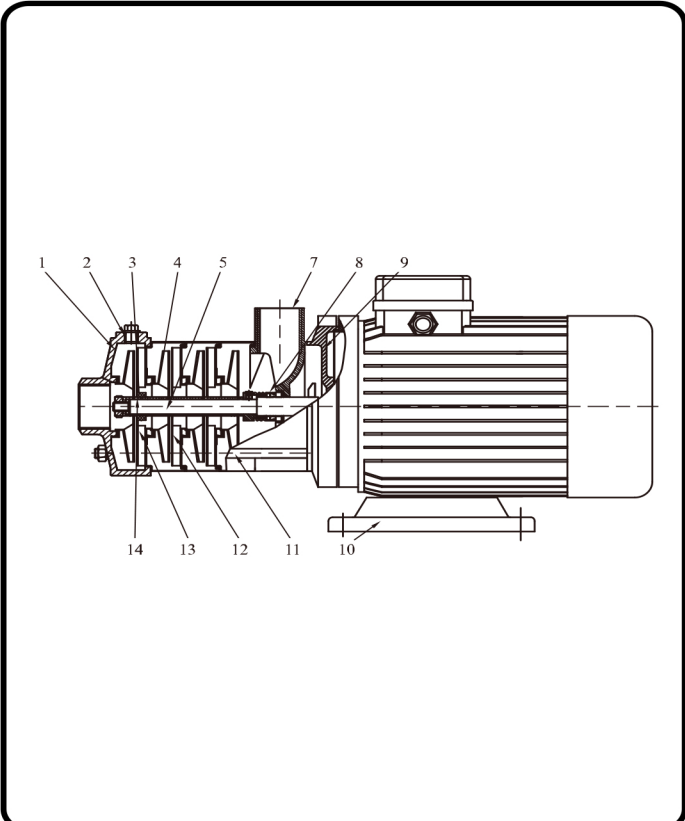
- Protection class: IP55
- Insulation class: F
- Standard voltage 50Hz 1x220-240V  
3x220-240V/380-415V

## Section drawing ACH and material list



No.	Name	Material	AISI / ASTM
1	Inlet and outlet chamber	Stainless steel	AISI 304
2	connection pipe	Stainless steel	AISI 304
3	Clamp plate	Stainless steel	AISI 304
4	Impeller	Stainless steel	AISI 304
5	Shaft	Stainless steel	AISI 304
6	Plug	Stainless steel	AISI 304
7	Discharge diffuser	Stainless steel	AISI 304
8	Mechanical seal		
9	Motor end cover	Aluminum alloy	
10	Base plate	Steel plate	AISI1015
11	Spannband	Stainless steel	AISI 304
12	Diffuser	Stainless steel	AISI 304
13	Support diffuser	Stainless steel	AISI 304
14	Inducer	Stainless steel	AISI 304

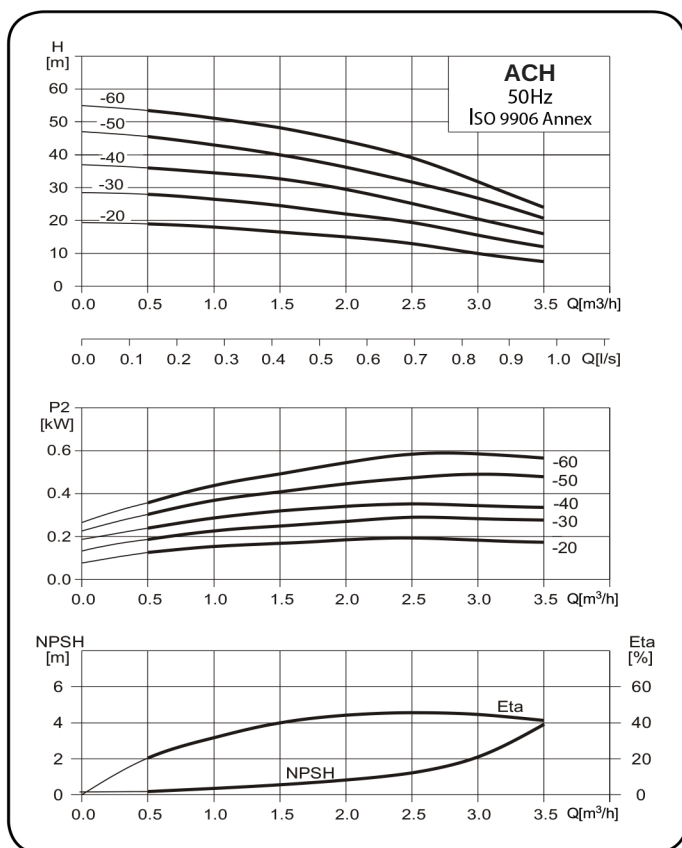
# Section drawing ACHF, ACHT and material list



No.	Name	Material	AISI / ASTM
2	Plug	Stainless steel	AISI 304
3	Bearing	Tungsten carbide	
4	Impeller	Stainless steel	AISI 304
5	Shaft	Stainless steel	AISI 304
8	Mechanical seal	Stainless steel	
9	Motor end cover	Aluminum alloy	
10	Base plate	Steel plate	AISI1015
11	Staybolt	Stainless steel	AISI 304
12	Diffuser	Stainless steel	AISI 304
13	Support diffuser	Stainless steel	AISI 304
14	Impeller sleeve	Stainless steel	AISI 304
<b>ACHF</b>			
1	Suction	Cast iron	ASTM25B
7	Discharge	Cast iron	ASTM25B
<b>ACHT</b>			
1	Suction	Stainless steel	AISI 304
7	Discharge	Stainless steel	AISI 304

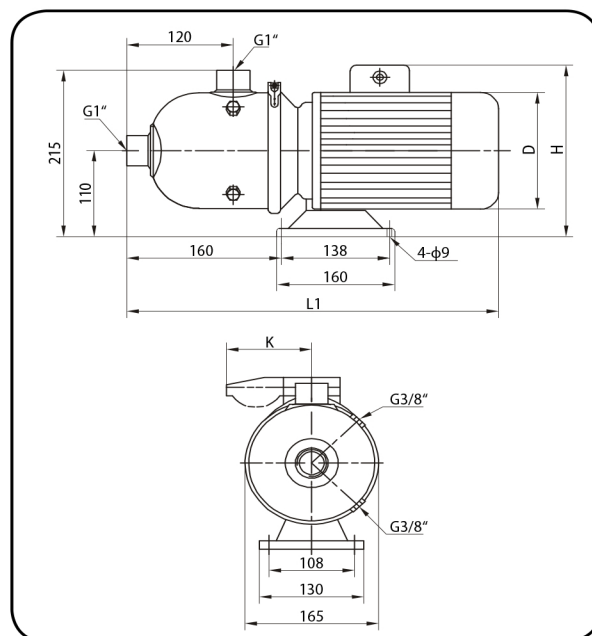


## Performance curves



## ACH 2

### Installation sketch



## Size and weight

Model	Size [mm]					Weight [kg]
	L1	D	H		K (1Ø)	
			1Ø	3Ø		
ACH 2-20	400	145	230	215	96	13
ACH 2-30	400	145	230	215	96	13
ACH 2-40	400	145	230	215	96	13
ACH 2-50	400	145	230	215	96	13
ACH 2-60	445	170	245	225	100	15

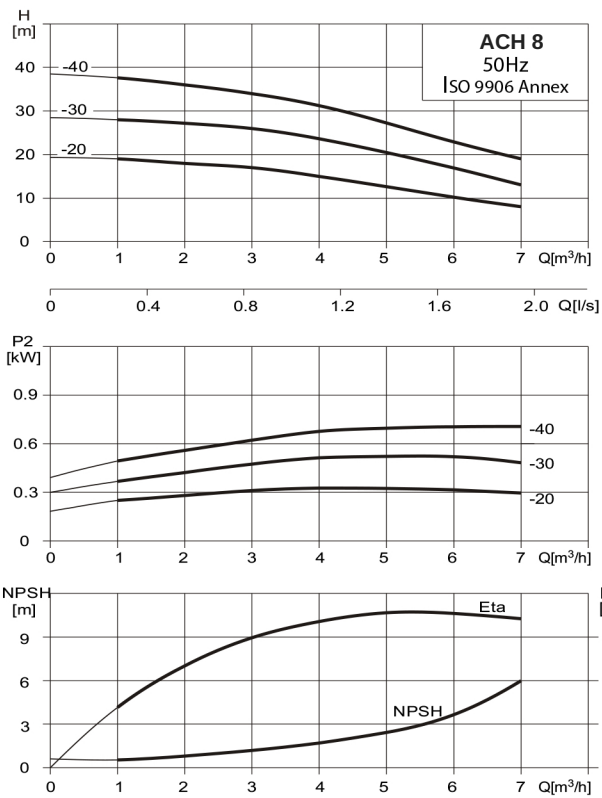
## Performance table

Model	Q [m³/h]	0.5	1.0	1.5	2.0	2.5	3.0
ACH 2-20	H [m]	19	18	16.5	15	13	10
ACH 2-30		28	26.5	24.5	22	19	15.5
ACH 2-40		36	34.5	33	29	25	20.5
ACH 2-50		45.5	43	40	36	31.5	26.5
ACH 2-60		53.5	51	48	44	39	32

## Electrical data

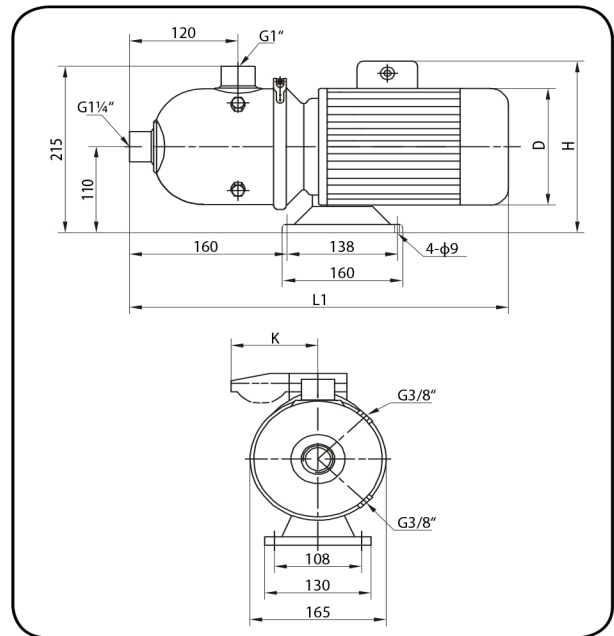
Model	P1(W)		I1/1(A)full load current	
	1x220-240V	3x220-240V/380-415V	1x220-240V	3x220-240V/380-415V
ACH 2-20	510~530	470~480	2.26	1.66~1.49/0.96~0.86
ACH 2-30	720~730	700~730	3.65	2.20~2.11/1.27~1.22
ACH 2-40	720~730	700~730	3.65	2.20~2.11/1.27~1.22
ACH 2-50	720~730	700~730	3.65	2.20~2.11/1.27~1.22
ACH 2-60	1000~1060	1000~1030	4.8	3.01~2.86/1.74~1.65

## Performance curves



## ACH 4

### Installation sketch



## Size and weight

Model	Size [mm]				K (1Ø)	Weight [kg]
	L1	D	H			
			1Ø	3Ø		
ACH 4-20	400	145	230	215	96	12
ACH 4-30	445	170	245	225	100	15
ACH 4-40	445	170	245	225	100	15

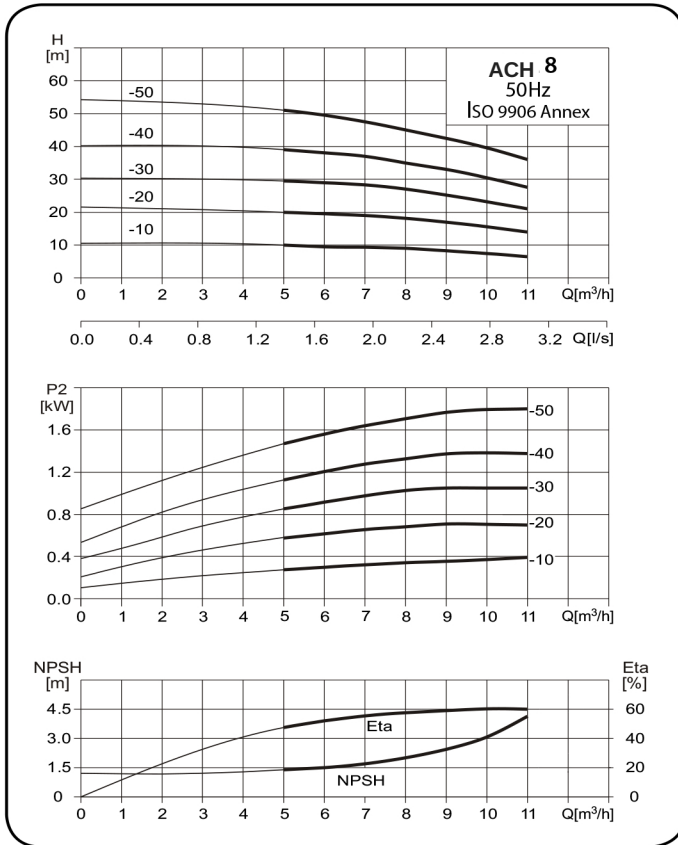
## Performance table

Model	Q [m³/h]	1	2	3	4	5	6
ACH 4-20	H [m]	19	18	17	15	12.5	10
ACH 4-30		28	27	26	23.5	20.5	17
ACH 4-40		37.5	36	34	31	27	23

## Electrical data

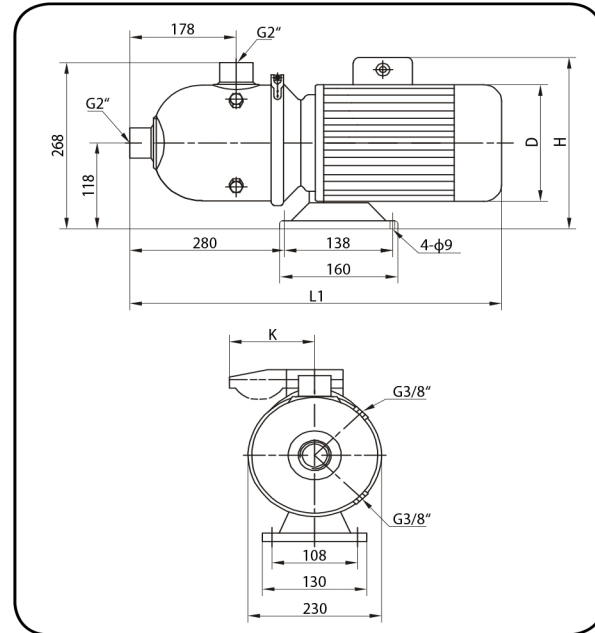
Model	P1(W)		I1/1(A)full load current	
	1x220-240V	3x220-240V/380-415V	1x220-240V	3x220-240V/380-415V
ACH 4-20	720~730	700~730	3.65	2.20~2.11/1.27~1.22
ACH 4-30	1000~1060	1000~1030	4.8	3.01~2.86/1.74~1.65
ACH 4-40	1000~1060	1000~1030	4.8	3.01~2.86/1.74~1.65

## Performance curves



## ACH 8

## Installation sketch



## Size and weight

Model	Size [mm]				Weight [kg]	
	L1	D	H			
			1Ø	3Ø	K (1Ø)	
ACH 8-10	560	170	265	230	100	20
ACH 8-20	560	170	265	230	100	20
ACH 8-30	560	170	265	230	100	25
ACH 8-40	580	180	270	240	100	25
ACH 8-50	580	180	270	240	100	30

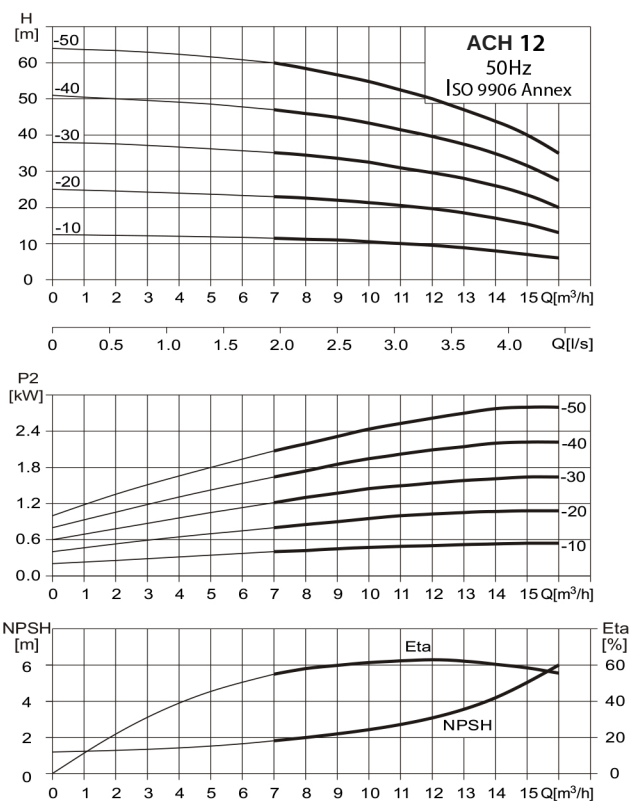
## Performance table

Model	Q [m <sup>3</sup> /h]	5	6	7	8	9	10
ACH 8-10	H [m]	10	9.5	9.3	9	8	7.5
ACH 8-20		20	19.5	19	18	17	15.5
ACH 8-30		29.5	29	28	27	25	23
ACH 8-40		39	38	37	35	33	30.5
ACH 8-50		51	49.5	47.5	45	42.5	39.5

## Electrical data

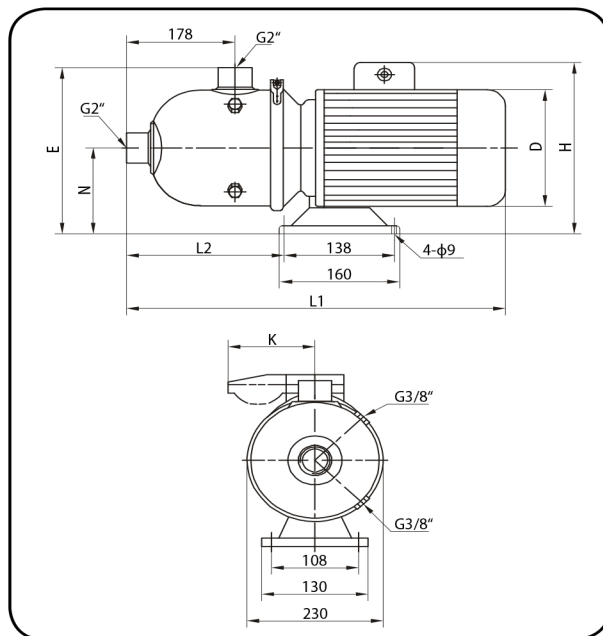
Model	P1(W)		I1/1(A)full load current	
	1x220-240V	3x220-240V/380-415V	1x220-240V	3x220-240V/380-415V
ACH 8-10	1000~1060	1000~1030	4.8	3.01~2.86/1.74~1.65
ACH 8-20	1000~1060	1000~1030	4.8	3.01~2.86/1.74~1.65
ACH 8-30	1500~1600	1460~1330	7	4.16~3.98/2.4~2.3
ACH 8-40	1800~1900	1820~1900	9.1	5.96~5.37/3.44~3.10
ACH 8-50	2740~2720	2720~2750	12.4	8.31~7.67/4.80~4.43

## Performance curves



## ACH 12

### Installation sketch



## Size and weight

Model	Size [mm]								Weight [kg]
	L1	L2	H		D	E	N	K (1Ø)	
			1Ø	3Ø					
ACH 12-10	560	280	265	230	170	268	118	/100	20
ACH 12-20	560	280	265	230	170	268	118	/100	21
ACH 12-30	580	280	270	240	180	268	118	/100	25
ACH 12-40	580	280	270	240	180	268	118	/100	29
ACH 12-50	610	270		270	195	276	126		34

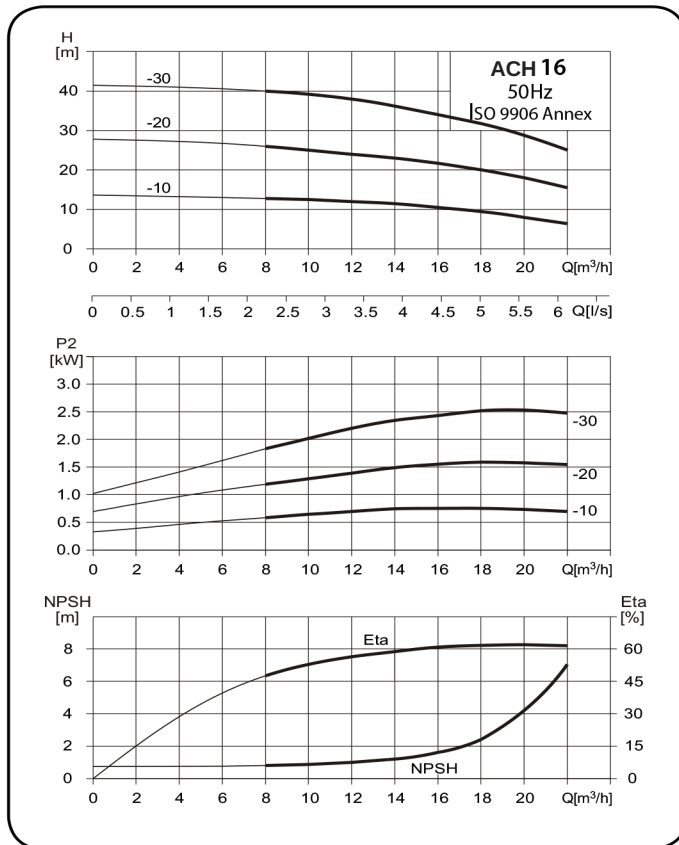
## Performance table

Model	Q [m³/h]	7	8	9	10	11	12	13	14	15
ACH 12-10	H [m]	11.5	11.2	11	10.5	10	9.5	9	8	7
ACH 12-20		23	22.5	22	21.5	20.5	19.5	18.5	17	15.5
ACH 12-30		35	34.5	33.5	32.5	31	29.5	28	26	23.5
ACH 12-40		47	46	45	43.5	41.5	39.5	37.5	35	31.5
ACH 12-50		60	58	56.5	55	52.5	50	47	44	40

## Electrical data

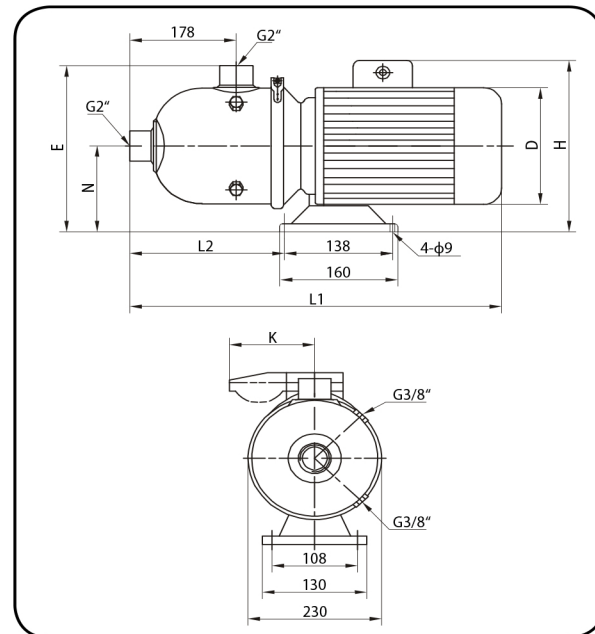
Model	P1(W)		I1/1(A)full load current	
	1x220-240V	3x220-240V/380-415V	1x220-240V	3x220-240V/380-415V
ACH 12-10	1466	1443	7-6.4	4.5-4.1/2.6-2.4
ACH 12-20	1466	1443	7.6-7	4.9-4.5/2.8-2.6
ACH 12-30	2368	2292	11-10.1	7.1-6.5/4.1-3.8
ACH 12-40	3376	3029	14.6-13.4	9-8.3/5.3-4.8
ACH 12-50		3631		11-10/6.3-5.8

## Performance curves



## ACH 16

## Installation sketch



## Size and weight

Model	Size [mm]								Weight [kg]
	L1	L2	H		D	E	N	K(1Ø)	
			1Ø	3Ø					
ACH 16-10	560	280	265	230	170	268	118	/100	20
ACH 16-20	580	280	270	240	180	268	118	/100	27
ACH 16-30	610	270		270	195	276	126		34

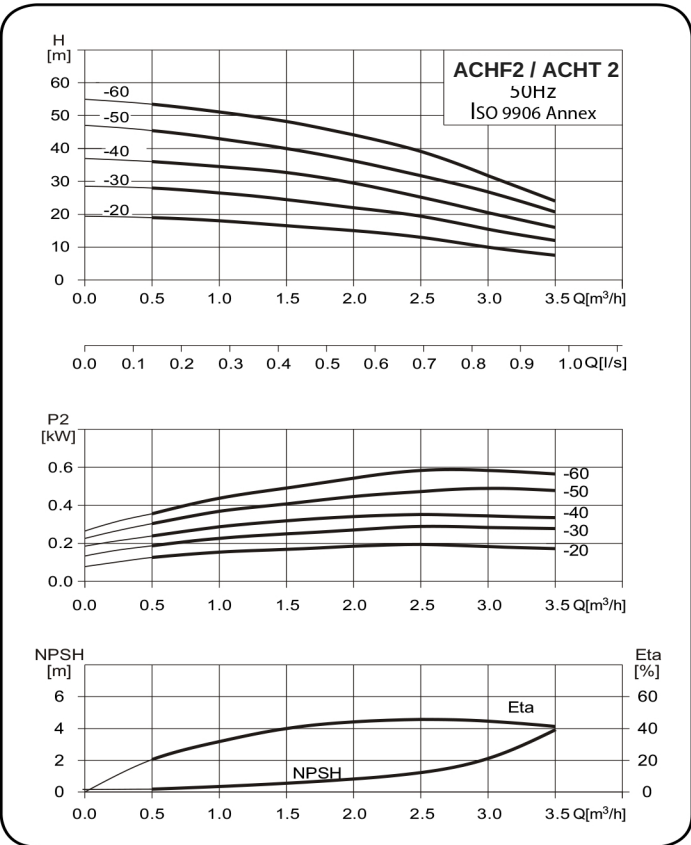
## Performance table

Model	Q [m³/h]	8	10	12	14	16	18	20
ACH 16-10	H [m]	12.8	12.5	12	11.5	10.5	9.5	8
ACH 16-20		26	25	24	23	21.7	20	18
ACH 16-30		40	39	38	36	34	31.5	29

## Electrical data

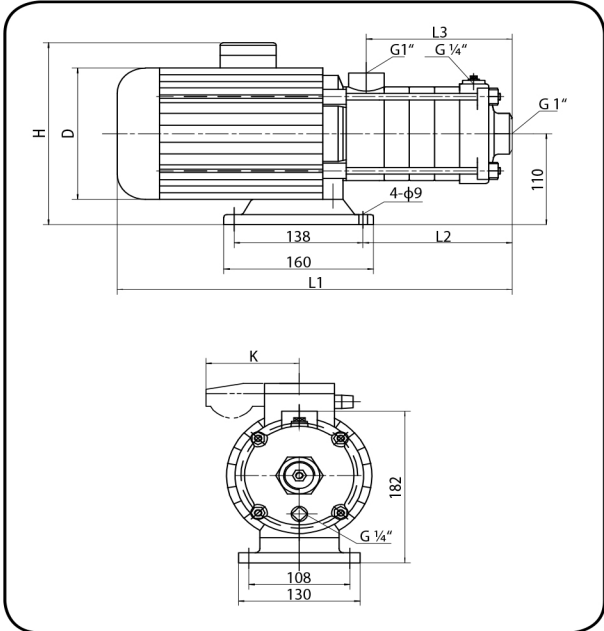
Model	P1(W)		I1/I(A) full load current	
	1x220-240V	3x220-240V/380-415V	1x220-240V	3x220-240V/380-415V
ACH 16-10	1500~1600	1460~1330	7	4.16~3.98/2.4~2.3
ACH 16-20	2740~2720	2720~2750	12.4	8.31~7.67/4.80~4.43
ACH 16-30		3520~3600		10.76~10.13/6.21~5.85

### Performance curves



## ACH 2 / ACHT 2

### Installation sketch



### Size and weight

Model	Size [mm]							Weight [kg]
	L1	L2	L3	H		D	K (1Ø)	
				1Ø	3Ø			
ACHF 2-20/ ACHT 2-20	305	87	84	230	215	145	96	15
ACHF 2-30/ ACHT 2-30	323	105	102	230	215	145	96	15
ACHF 2-40/ ACHT 2-40	341	123	120	230	215	145	96	15
ACHF 2-50/ ACHT 2-50	359	141	138	230	215	145	96	15
ACHF 2-60/ ACHT 2-60	422	159	156	245	225	170	100	17

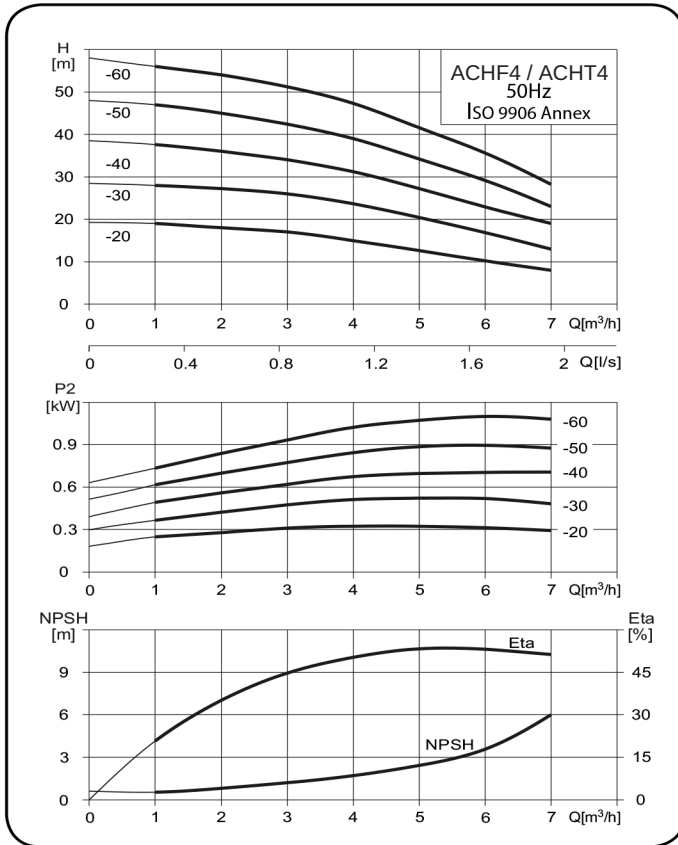
### Performance table

Model	Q [m³/h]	0.5	1.0	1.5	2.0	2.5	3.0
ACHF 2-20/ ACHT 2-20	H [m]	19	18	16.5	15	13	10
ACHF 2-30/ ACHT 2-30		28	26.5	24.5	22	19	15.5
ACHF 2-40/ ACHT 2-40		36	34.5	33	29	25	20.5
ACHF 2-50/ ACHT 2-50		45.5	43	40	36	31.5	26.5
ACHF 2-60/ ACHT 2-60		53.5	51	48	44	39	32

### Electrical data

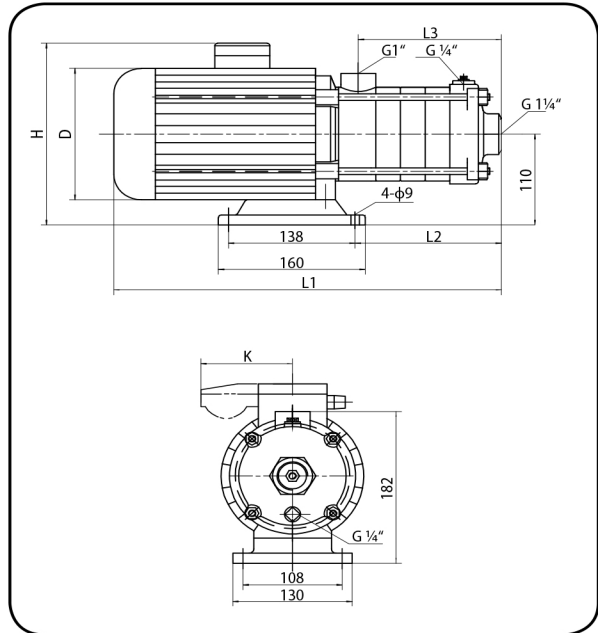
Model	P1(W)		I1/1(A)full load current	
	1x220-240V	3x220-240V/380-415V	1x220-240V	3x220-240V/380-415V
ACHF 2-20/ ACHT 2-20	510~530	470~480	2.26	1.66~1.49/0.96~0.86
ACHF 2-30/ ACHT 2-30	720~730	700~730	3.65	2.20~2.11/1.27~1.22
ACHF 2-40/ ACHT 2-40	720~730	700~730	3.65	2.20~2.11/1.27~1.22
ACHF 2-50/ ACHT 2-50	720~730	700~730	3.65	2.20~2.11/1.27~1.22
ACHF 2-60/ ACHT 2-60	1000~1060	1000~1030	4.8	3.01~2.86/1.74~1.65

Performance curves



ACHF 4 / ACHT 4

Installation sketch



Size and weight

Model	Size [mm]							Weight [kg]
	L1	L2	L3	H		D	K (1Ø)	
				1Ø	3Ø			
ACHF 4-20 / ACHT 4-20	329	105	102	230	215	145	96	15
ACHF 4-30 / ACHT 4-30	356	132	129	230	215	145	96	15
ACHF 4-40 / ACHT 4-40	416	162	156	245	225	170	100	17
ACHF 4-50 / ACHT 4-50	455	188	183	245	225	170	100	17
ACHF 4-60 / ACHT 4-60	482	213	213	245	225	170	100	17

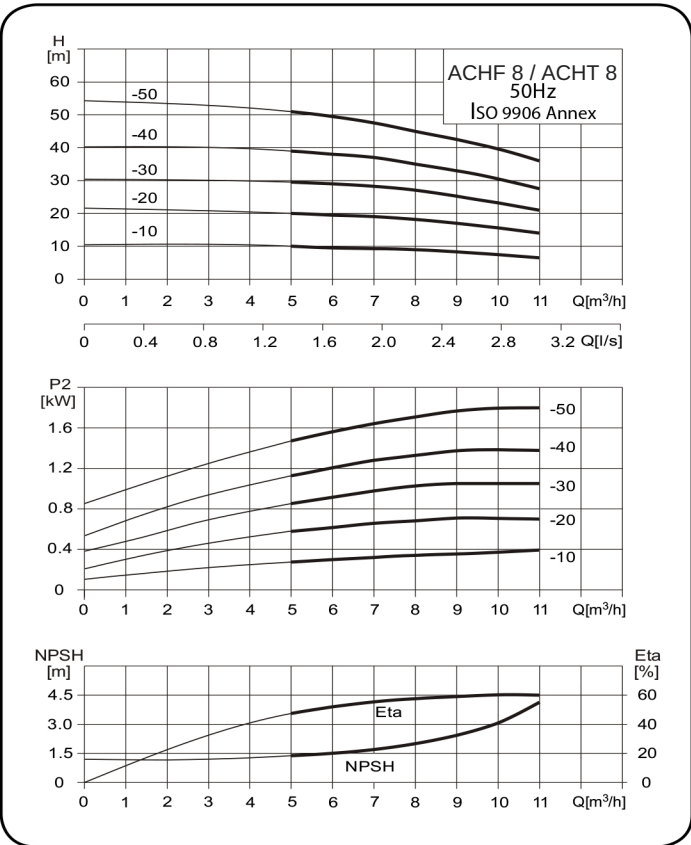
Performance table

Model	Q [m³/h]	1	2	3	4	5	6
ACHF 4-20 / ACHT 4-20	H [m]	19	18	17	15	12.5	10
ACHF 4-30 / ACHT 4-30		28	27	26	23.5	20.5	17
ACHF 4-40 / ACHT 4-40		37.5	36	34	31	27	23
ACHF 4-50 / ACHT 4-50		47	45	42.5	39	34	29
ACHF 4-60 / ACHT 4-60		56	54	51	47	41.5	35.5

Electrical data

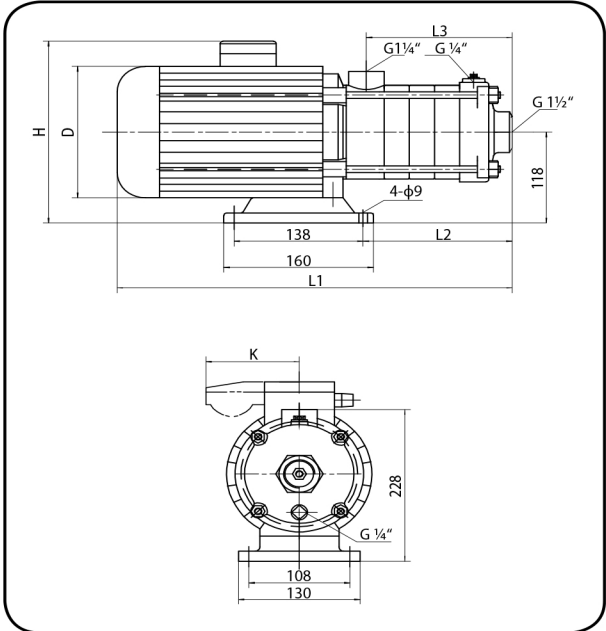
Model	P1(W)		I1/1(A)full load current	
	1x220-240V	3x220-240V/380-415V	1x220-240V	3x220-240V/380-415V
ACHF 4-20 / ACHT 4-20	720~730	700~730	3.65	2.2~2.11/1.27~1.22
ACHF 4-30 / ACHT 4-30	800~840	780~820	3.9	2.3~2.2/1.3~1.27
ACHF 4-40 / ACHT 4-40	1000~1060	1000~1030	4.8	3.01~2.86/1.74~1.65
ACHF 4-50 / ACHT 4-50	1500~1600	1460~1330	7	4.16~3.98/2.4~2.3
ACHF 4-60 / ACHT 4-60	1500~1600	1460~1330	7	4.16~3.98/2.4~2.3

### Performance curves



## ACHF 8 / ACHT 8

### Installation sketch



### Size and weight

Model	Size [mm]							Weight [kg]
	L1	L2	L3	H		D	K (1Ø)	
				1Ø	3Ø			
ACHF 8-10 / ACHT 8-10	395	126	108	265	230	170	100	20
ACHF 8-20 / ACHT 8-20	395	126	108	265	230	170	100	20
ACHF 8-30 / ACHT 8-30	425	156	138	265	230	170	100	25
ACHF 8-40 / ACHT 8-40	490	186	168	270	240	180	100	28
ACHF 8-50 / ACHT 8-50	520	216	198	270	240	180	100	30

### Performance table

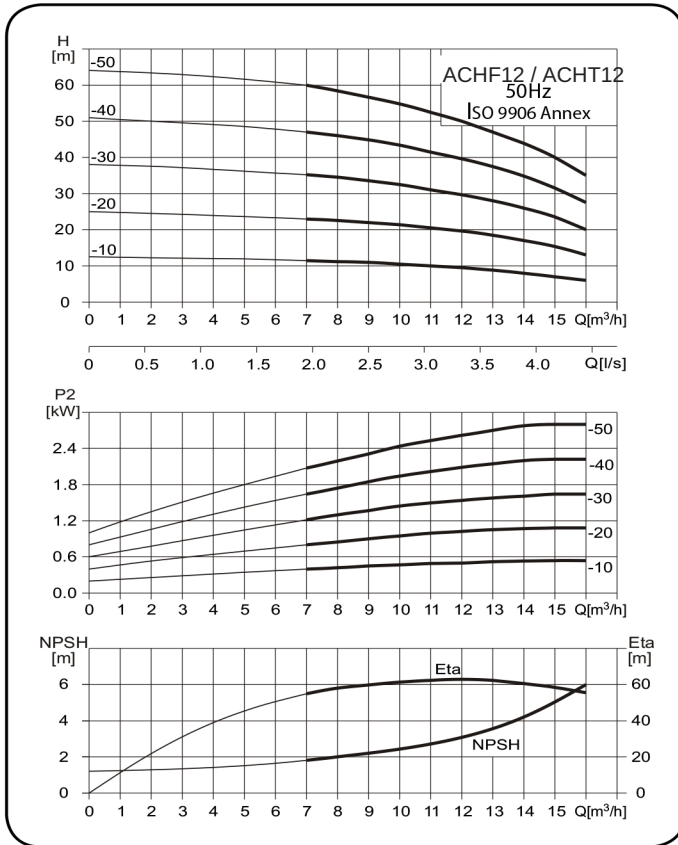
Model	Q [m³/h]	5	6	7	8	9	10
ACHF 8-10 / ACHT 8-10	H [m]	10	9.5	9.3	9	8	7.5
ACHF 8-20 / ACHT 8-20		20	19.5	19	18	17	15.5
ACHF 8-30 / ACHT 8-30		29.5	29	28	27	25	23
ACHF 8-40 / ACHT 8-40		39	38	37	35	33	30.5
ACHF 8-50 / ACHT 8-50		51	49.5	47.5	45	42.5	36

### Electrical data

Model	P1(W)		I1/1(A)full load current	
	1x220-240V	3x220-240V/380-415V	1x220-240V	3x220-240V/380-415V
ACHF 8-10 / ACHT 8-10	1000~1060	1000~1030	4.8	3.01~2.86/1.74~1.65
ACHF 8-20 / ACHT 8-20	1000~1060	1000~1030	4.8	3.01~2.86/1.74~1.65
ACHF 8-30 / ACHT 8-30	1500~1600	1460~1330	7	4.16~3.98/2.4~2.3
ACHF 8-40 / ACHT 8-40	1800~1900	1820~1900	9.1	5.96~5.37/3.44~3.10
ACHF 8-50 / ACHT 8-50	2740~2720	2720~2750	12.4	8.31~7.67/4.80~4.43

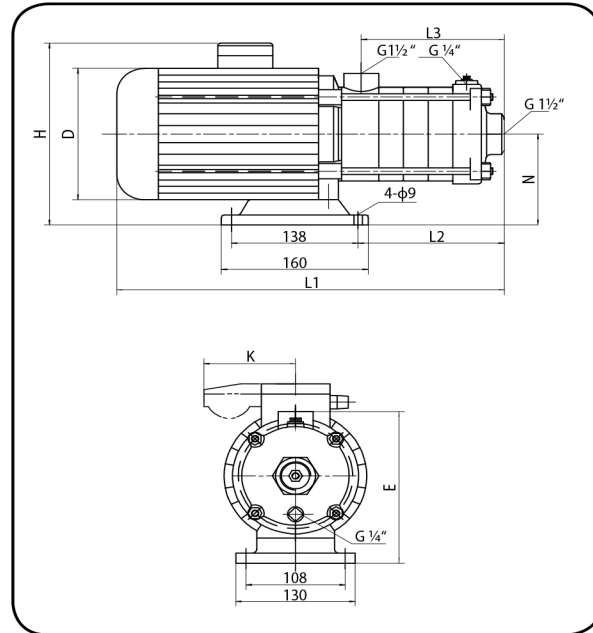


## Performance curves



## ACHF 12 / ACHT 12

### Installation sketch



## Size and weight

Model	Size [mm]									Weight [kg]
	L1	L2	L3	H		D	E	N	K (1Ø)	
				1Ø	3Ø					
ACHF 12-10 / ACHT 12-10	395	126	108	265	230	170	228	118	100	20
ACHF 12-20 / ACHT 12-20	395	126	108	265	230	170	228	118	100	21
ACHF 12-30 / ACHT 12-30	460	156	138	270	240	180	228	118	100	25
ACHF 12-40 / ACHT 12-40	490	186	168	270	240	180	228	118	100	29
ACHF 12-50 / ACHT 12-50	555	216	198		270	195	240	126		34

## Performance table

Model	Q [m³/h]	7	8	9	10	11	12	13	14	15
ACHF 12-10 / ACHT 12-10	H [m]	11.5	11.2	11	10.5	10	9.5	9	8	7
ACHF 12-20 / ACHT 12-20		23	22.5	22	21.5	20.5	19.5	18.5	17	15.5
ACHF 12-30 / ACHT 12-30		35	34.5	33.5	32.5	31	29.5	28	26	23.5
ACHF 12-40 / ACHT 12-40		47	46	45	43.5	41.5	39.5	37.5	35	31.5
ACHF 12-50 / ACHT 12-50		60	58	56.5	55	52.5	50	47	44	40

## Electrical data

Model	P1(W)		I1/1(A)full load current	
	1x220-240V	3x220-240V/380-415V	1x220-240V	3x220-240V/380-415V
ACHF 12-10 / ACHT 12-10	1466	1443	7 ~ 6.4	4.5 ~ 4.1/ 2.6 ~ 2.4
ACHF 12-20 / ACHT 12-20	1466	1443	7.6 ~ 7	4.9 ~ 4.5/ 2.8 ~ 2.6
ACHF 12-30 / ACHT 12-30	2368	2292	11 ~ 10.1	7.1 ~ 6.5/ 4.1 ~ 3.8
ACHF 12-40 / ACHT 12-40	3376	3029	14.6 ~ 13.4	9 ~ 8.3/ 5.3 ~ 4.8
ACHF 12-50 / ACHT 12-50		3631		11 ~ 10/ 6.3 ~ 5.8