

Side Channel pumps

Self-priming, segmental type



AEH 1201 ... 6108

Technical data

Capacity:	from 0,4 up to 35 m³/h
Delivery head:	from 6 up to 348 m
Speed:	1450 rpm (max. 1800 rpm)
Temperature:	max. 120 °C max. 180 °C for high temperature design (higher temperatures upon request)
Casing pressure:	PN 40
Shaft sealing:	stuffing box or mechanical seal
Flange connections:	DIN 2501 / PN 40
Direction of rotation:	clockwise (when seen from the drive end)



Application

The Sterling SIHI AEH pump is a self-priming side channel pump capable of handling gas along with the medium. The AEH is a Side Channel pump as per **DIN EN 734** and operates at a low noise level.

The AEH pumps were especially developed for difficult applications in all industry sectors and are thus applied when pure, turbid or aggressive media have to be pumped under difficult conditions without any problems.

The different material possibilities with uniform dimensions and performance characteristics as well as the standard exchangeable components, make the AEH particularly recommendable as universal pump for all possible pumping problems. This results in a wide application range in many sectors such as;

- Chemical industry,
- Petro-Chemical industry,
- Pharmaceutical industry,
- OEM,
- Oil industry,
- Food industry.

Design

Pumps of the series AEH have a segmental type construction with open vane wheel impellers. The pumps is available in a normal industrial design with one liquid surrounded slide bearing and one ball bearing or in a heavy-duty construction with a double ball bearing design.

The program comprises 6 sizes each with 1-8 stages. The existing material design allows an optimum rating for the respectively desired performance range and the pumping medium.

The applied hydraulic components are from our Modular Side Channel system (interchangeability of parts).

Construction

Casing pressure

Maximum 40 bar from -40 °C up to +120 °C.
Maximum 32 bar from +120 °C up to +180 °C.
Pressure stages for temperature as per DIN EN 1333.

Please observe

Technical rules and safety regulations:
Casing pressure = inlet pressure + delivery head at minimum pump capacity.

Position of branches

Suction and discharge branch point radially upwards.

Flanges

The flanges correspond to DIN EN 1092-2 / PN 40.
Flange design as per DIN 2512 with groove or drilled according to ANSI 150 or 300 lbs is basically possible.

Bearing

Either by a ball bearing and a liquid surrounded sleeve bearing (design A) or by two ball bearings (design B). The ball bearings are according to DIN 625 and greased for life.

Direction of rotation

Clockwise, when looking at the pump from the drive end.
Anti-clockwise is possible.

Shaft sealing

The shaft can be sealed by a stuffing box or a mechanical seal conform DIN EN 12756.
The shaft sealing is also available in a design suitable for heating or cooling of the stuffing box or the mechanical seal.

Double mechanical seal (back-to-back as well as tandem) or a quench design with throttle bush are available upon request.

The AEH can also be supplied with a magnetic coupling (for information see the separate catalogue).

Material design AEH

Cast iron and Ductile iron

Pos	Components	Material design						
		0A	0B		0F	1A	1B	1F
1060	Suction casing	EN-GJL-250			EN-GJS-400-18-LT			
1070	Discharge casing							
1090 1140 1141	Intermediate piece							
2100	Shaft	X 20 Cr 13						
2350	Vane wheel impeller	CuZn40Al2	G-X 3 CrNiMoCuN 26 6 3 3		PAEK	CuZn40Al2	G-X 3 CrNiMoCuN 26 6 3 3	PAEK
3500	Bearing housing	EN-GJL-250			EN-GJL-250			
3550	Bearing bracket *				EN-GJS-400-18-LT			
4410	Mechanical seal casing	EN-GJL-250			EN-GJS-400-18-LT			
4510	Stuffing box casing							
5451	Bearing bush	EK 2203						

* Only for Design A

Stainless steel

Pos	Components	Material design	
		4B	4F
1060	Suction casing	G-X 6 CrNiMo 18 10	
1070	Discharge casing		
1090 1140 1141	Intermediate piece		
2100	Shaft	X 5 CrNiMo 17 12 2	
2350	Vane wheel impeller	G-X 3 CrNiMoCuN 26 6 3 3	PAEK
3500	Bearing housing	EN-GJL-250 coated	
4410	Mechanical seal casing	G-X 6 CrNiMo 18 10	

Casing seal

The casing can be sealed with a liquid sealing compound or soft Teflon.

Drive

By electric motor, type of construction IM B3.

General comments

Side Channel pumps with the same hydraulic construction are manufactured in series as:

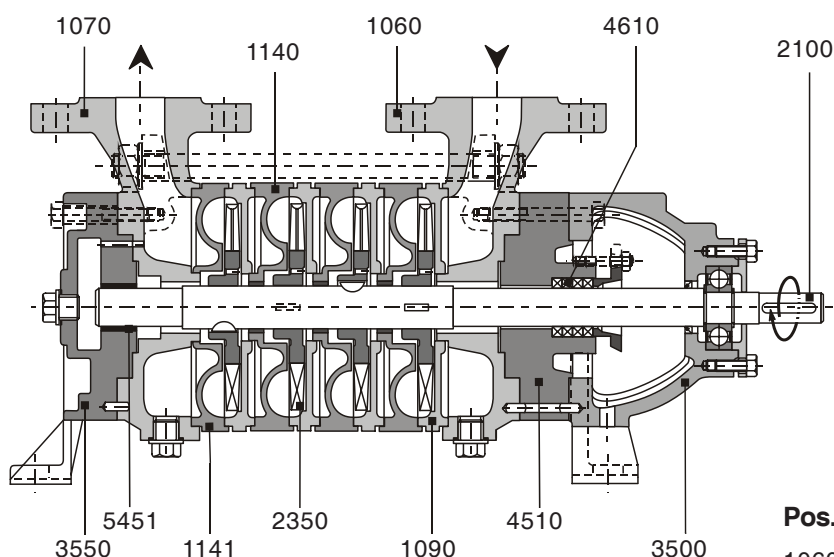
- AEH** With magnetic coupling, PN 40
- CEH** High duty pump, PN 40
Also available with magnetic coupling
- CEB** Vertical tank mounted pump, PN 25 with magnetic coupling
- CEV** Vertical tank mounted pump, PN 25 with mechanical seal (replacement for CVGP)
- AKH** Medium duty pump, PN 16
- AOH** Low duty pump with oval flanges, PN 10

Technical documents about these pump series will be readily supplied on request.

Sectional drawing and parts list AEH (typical)

AEH in design A

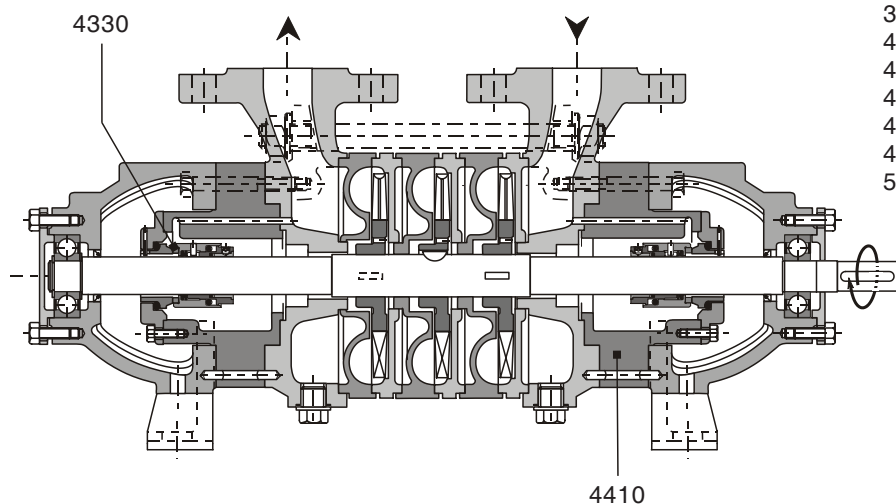
Stuffing box as well as (un)balanced mechanical seals are available



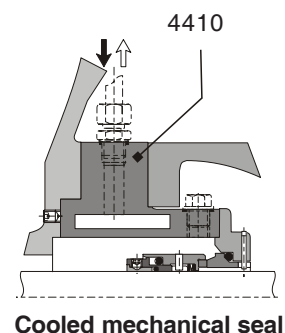
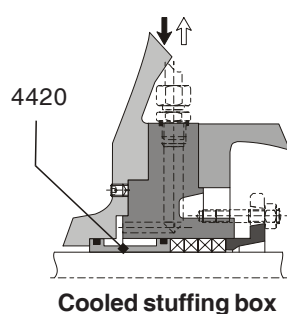
Pos.	Components
1060	Suction casing
1070	Discharge casing
1090	Suction intermediate piece
1140	Discharge intermediate piece
1141	Discharge intermediate piece
2100	Shaft
2350	Vane wheel impeller
3500	Bearing housing
3550	Bearing bracket
4330	Mechanical seal
4410	Mechanical seal casing
4420	Cooling insert
4510	Stuffing box casing
4610	Stuffing box
5451	Bearing bush

AEH in design B

Stuffing box as well as (un)balanced mechanical seals are available



Cooled shaft sealing possibilities



All possible design combinations can be found in the delivery program

Performance range AEH

General conditions

Liquid: Water
 Density: 1 kg/dm³
 Viscosity: 1 cSt
 Temperature: 20 °C
 Atmospheric pressure: 1013 mbar

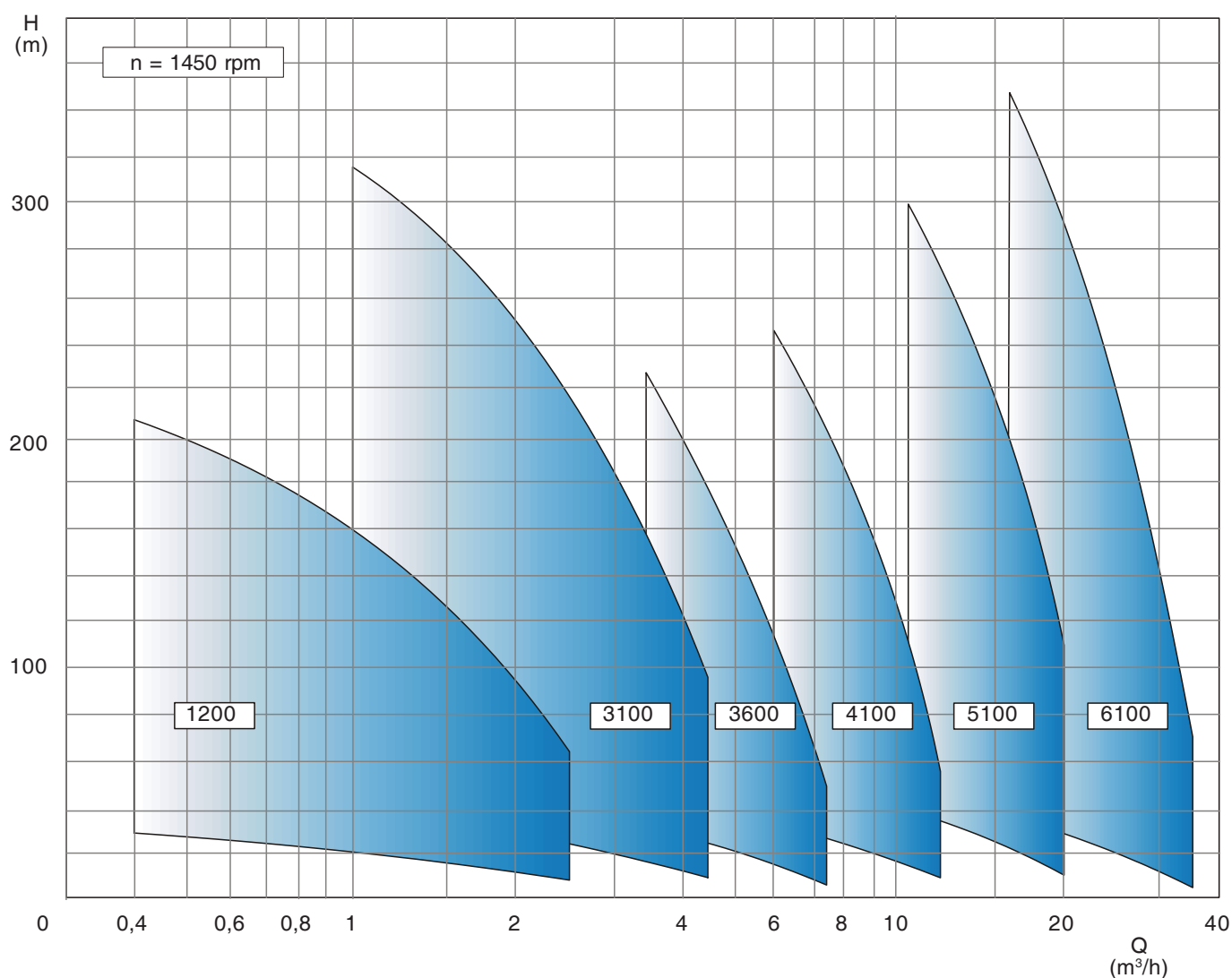
Characteristic tolerances

Capacity $\pm 5\%$ - Delivery head $\pm 5\%$ - Power + 10%

For designs with a mechanical seal or a casing seal of soft Teflon, the tolerance for the delivery head is extended by 2% each.

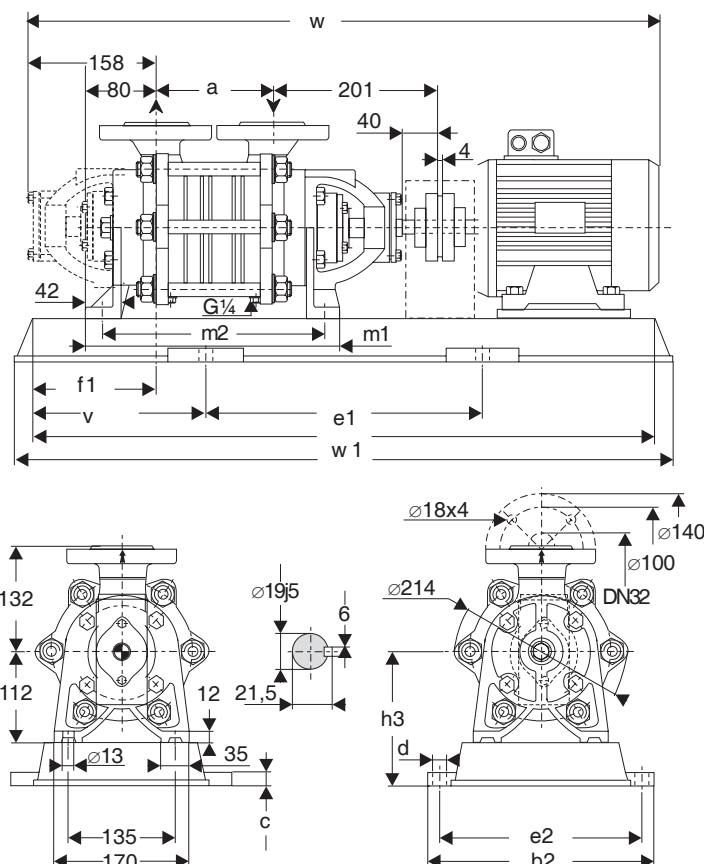
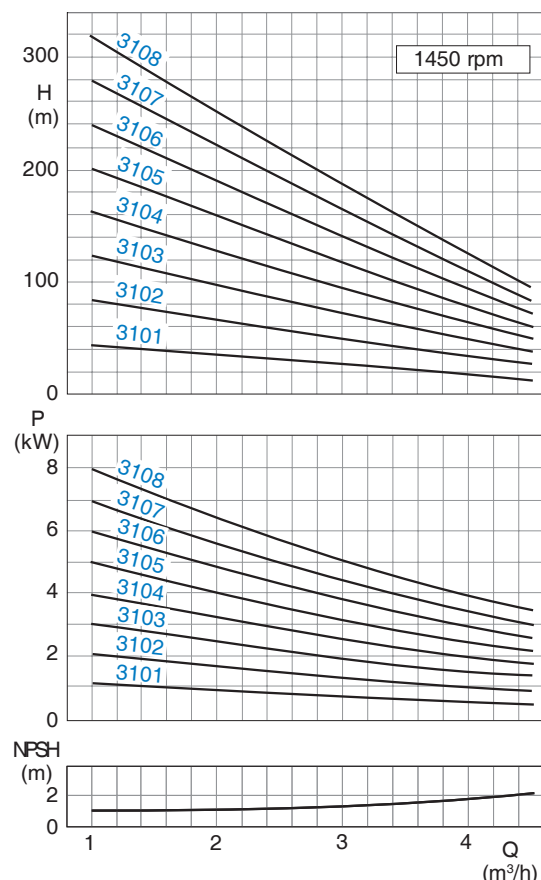
Measuring standard

According to ISO 5198



Dimension chart, Pump set drawing and Performance curves

AEH 3100



General:

Values are valid for water $\rho = 1 \text{ kg/dm}^3$ and $\nu = 1 \text{ cSt}$.

Characteristic tolerances:

Capacity $\pm 5\%$ - Delivery head $\pm 5\%$ - Power $+ 10\%$.
For designs with a mechanical seal or casing seal of soft Teflon, the tolerance for the delivery head is extended by 2% each.

Pump size	Motor kW	Motor size	Base plate	Coupling	Weight pump	Weight set	a	b2	c	d	e1	e2	v	f1	h3	m1	m2	w*	w1
3101	0.75	80	P241	B68	33	64	146	330	25	19	480	290	125	107	177	314	280	781	730
	1.1	90S				68												839	
3102	1.1	90S	P241	B68	35	70	146	330	25	19	480	290	125	107	177	314	280	839	730
	1.5	90L				72												880	
3103	2.2	100L	P272	B80	37	89	186	360	25	19	540	320	140	107	177	354	320	920	820
	3	100L				90												920	
3104	2.2	100L	P015	B80	40	97	226	361	25	15	600	325	160	107	162	394	360	960	920
	3	100L				98												981	
3105	4	112M	P015	B80	44	102	266	361	25	15	600	325	160	107	162	434	400	1000	920
	5.5	132S				120												1021	
3106	4	112M	P017	B80	49	139	306	361	25	15	700	325	200	107	172	474	440	1061	1100
	5.5	132S				161												1137	
3107	7.5	132M	P017	B95	53	171	346	361	25	15	700	325	200	107	192	514	480	1163	1100
	4	112M				144												1101	
3108	5.5	132S	P017	B95	57	165	386	361	25	15	700	325	200	107	192	554	520	1177	1100
	7.5	132M				205												1203	
3108	11	160M	P436	B95	57	199	386	361	25	15	700	325	200	107	192	554	520	1217	1100
	7.5	132M				209												1243	
3108	11	160M	P436	B95	57	255	386	361	25	15	700	325	200	107	192	554	520	1335	1270
	11	160M				255												1335	

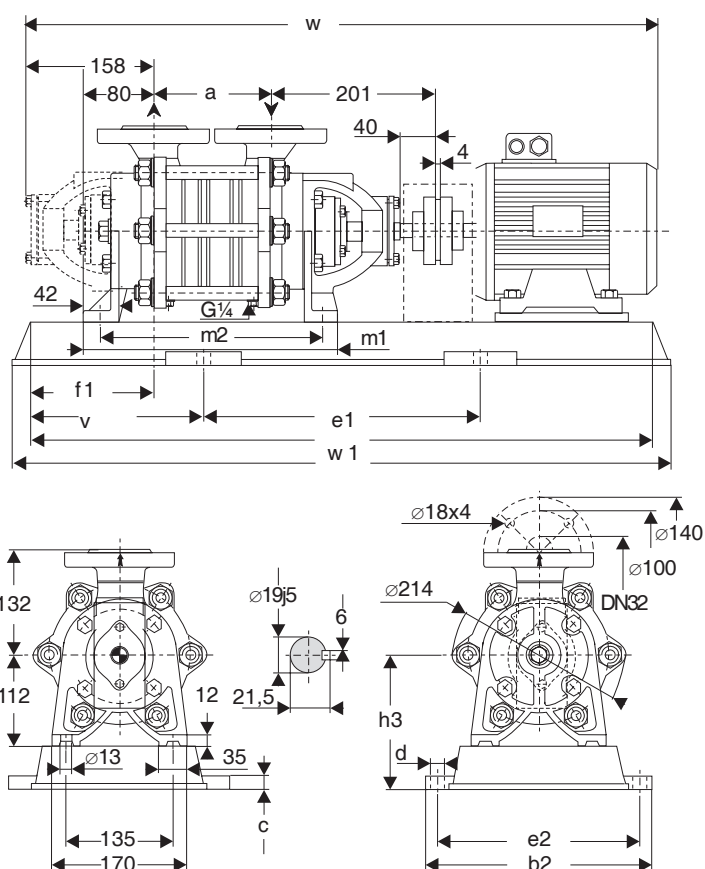
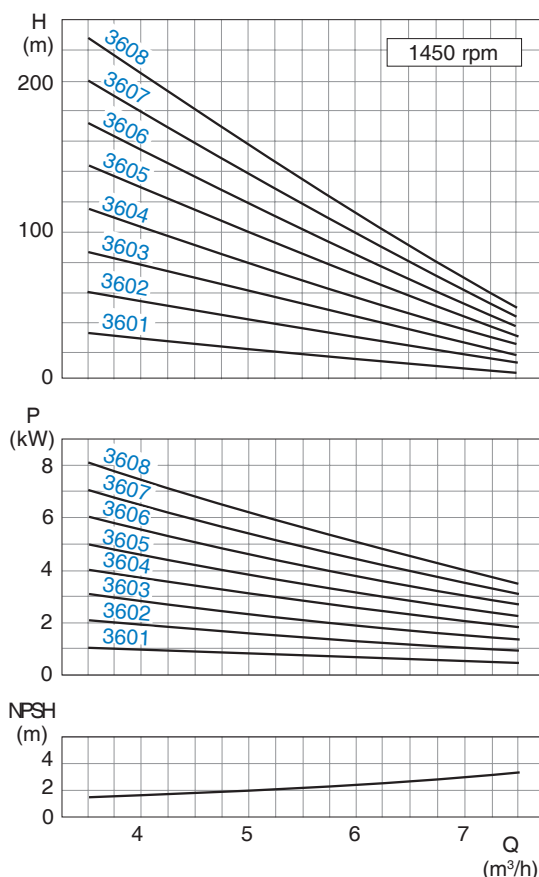
* Design B - dimensions depend on motor brand.

The weight of the pump in design A will be approximately 2,5 kg less.

The weight will be approximately 6% higher when using Stainless steel.

Dimension chart, Pump set drawing and Performance curves

AEH 3600



General:

Values are valid for water $\rho = 1 \text{ kg/dm}^3$ and $\nu = 1 \text{ cSt}$.

Characteristic tolerances:

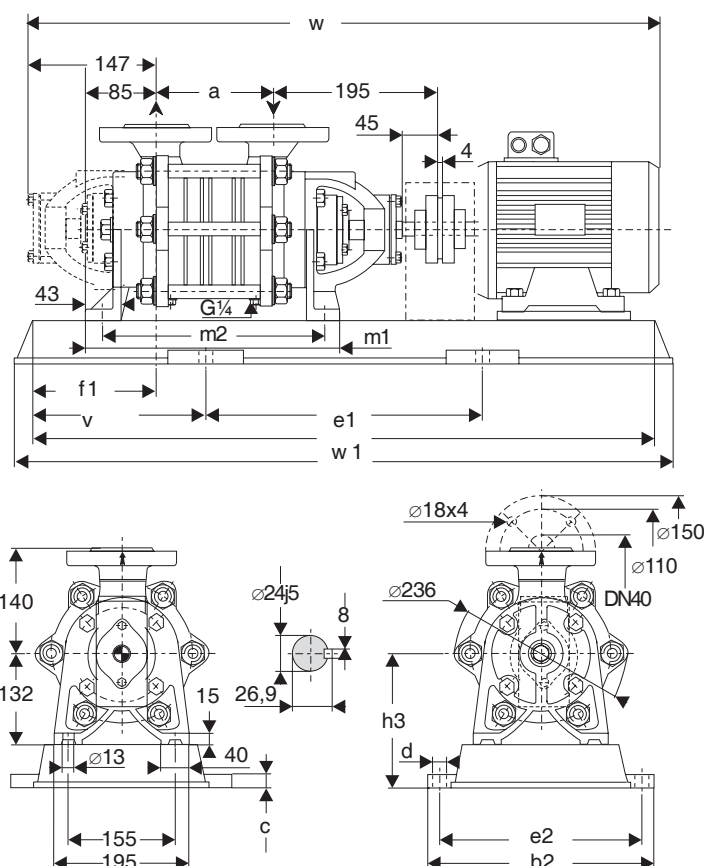
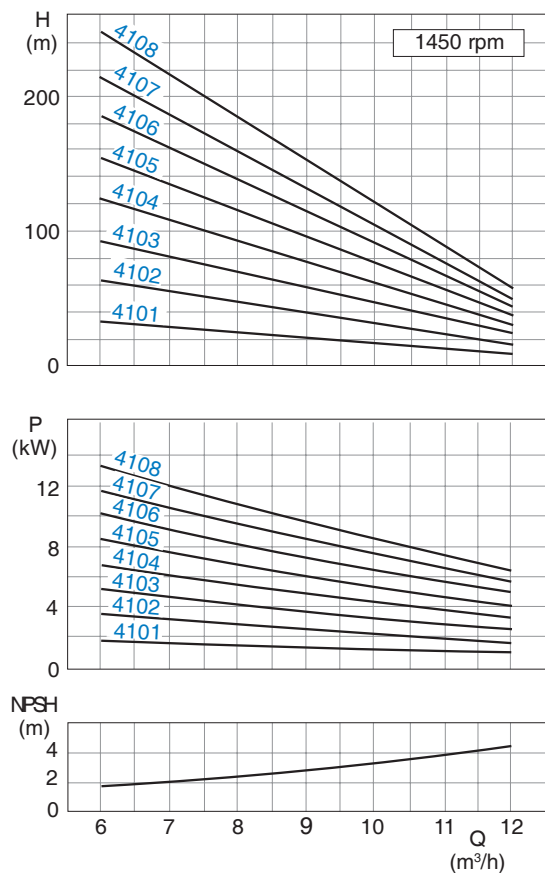
Capacity $\pm 5\%$ - Delivery head $\pm 5\%$ - Power $+ 10\%$.
For designs with a mechanical seal or casing seal of soft Teflon, the tolerance for the delivery head is extended by 2% each.

Pump size	Motor kW	Motor size	Base plate	Coupling	Weight pump	Weight set	a	b2	c	d	e1	e2	v	f1	h3	m1	m2	w*	w1
3601	0.75	80	P241	B68	30	64	146	330	25	19	480	290	125	107	177	314	280	781	730
	1.1	90S				68												839	
3602	1.5	90L	P241	B68	34	74	146	330	25	19	480	290	125	107	177	314	280	839	730
	2.2	100L	P272	B80		85												880	
3603	2.2	100L	P272	B80	39	89	186	360	25	19	540	320	140	107	177	354	320	920	820
	3	100L				90												941	
	4	112M				109												960	
3604	3	100L	P015	B80	43	98	226	361	25	15	600	325	160	107	162	394	360	981	920
	4	112M				116												1057	
	5.5	132S	P017	B95		154					700		200		192			1000	
3605	3	100L	P015	B80	46	102	266	361	25	15	600	325	160	107	162	434	400	1021	920
	4	112M				120												1097	
	5.5	132S	P017	B95		157					700		200		192			1061	
3606	4	112M	P017	B80	49	139	306	361	25	15	700	325	200	107	172	474	440	1137	1100
	5.5	132S				161												1163	
	7.5	132M				171												1177	
3607	5.5	132S	P017	B95	53	165	346	361	25	15	700	325	200	107	192	514	480	1203	1100
	7.5	132M				205												1217	
	5.5	132S				209												1243	
3608	7.5	132M	P017	B95	57	219	386	361	25	15	700	325	200	107	192	554	520	1270	1100
	11	160M				255												1335	

* Design B - dimensions depend on motor brand.
The weight of the pump in design A will be approximately 2,5 kg less.
The weight will be approximately 6% higher when using Stainless steel.

Dimension chart, Pump set drawing and Performance curves

AEH 4100



General:

Values are valid for water $\rho = 1 \text{ kg/dm}^3$ and $\nu = 1 \text{ cSt}$.

Characteristic tolerances:

Capacity $\pm 5\%$ - Delivery head $\pm 5\%$ - Power $+ 10\%$.

For designs with a mechanical seal or casing seal of soft Teflon, the tolerance for the delivery head is extended by 2% each.

Pump size	Motor kW	Motor size	Base plate	Coupling	Weight pump	Weight set	a	b2	c	d	e1	e2	v	f1	h3	m1	m2	w*	w1
4101	1.5	90L	P241	B68	40	84	160	330	25	19	480	290	125	94	197	303	269	836	730
	2.2	100L	P272	B80		95													
4102	2.2	100L	P272	B80	47	101	215	360	25	19	540	320	140	94	197	358	324	932	820
	3	100L				102													
4103	4	112M	P015	B80	52	132	270	361	25	15	600	325	160	94	182	413	379	1008	920
	5.5	132S	P017	B95		172													
4104	5.5	132S	P017	B95	61	175	325	361	25	15	700	325	200	94	192	468	434	1139	1100
	7.5	132M				185													
4105	5.5	132S	P017	B95	67	181	380	361	25	15	700	325	200	94	192	523	489	1194	1100
	7.5	132M				221													
4106	11	160M	P385	B95	73	275	435	490	30	24	740	440	200	94	212	578	544	1312	1140
	7.5	132M	P385			237													
4107	11	160M	P436	B95	79	272	490	540	30	24	840	490	215	94	212	633	599	1275	1140
	7.5	132M	P436			278													
4108	15	160L	P487	B110	85	314	545	610	35	28	940	550	240	94	260	688	654	1484	1420
	11	160M	P487	B95		298													
				B110		319												1477	1420
																		1539	

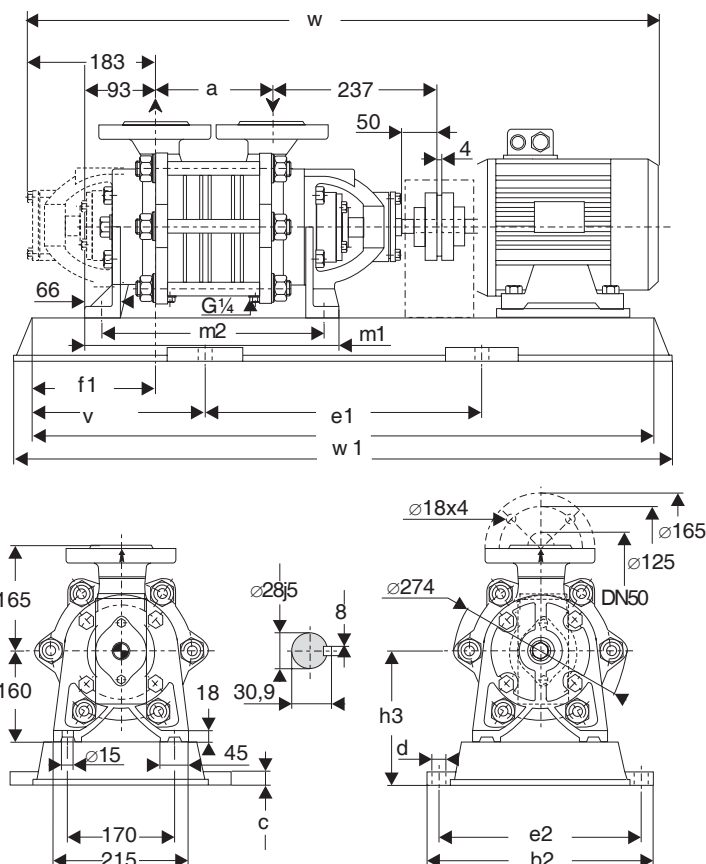
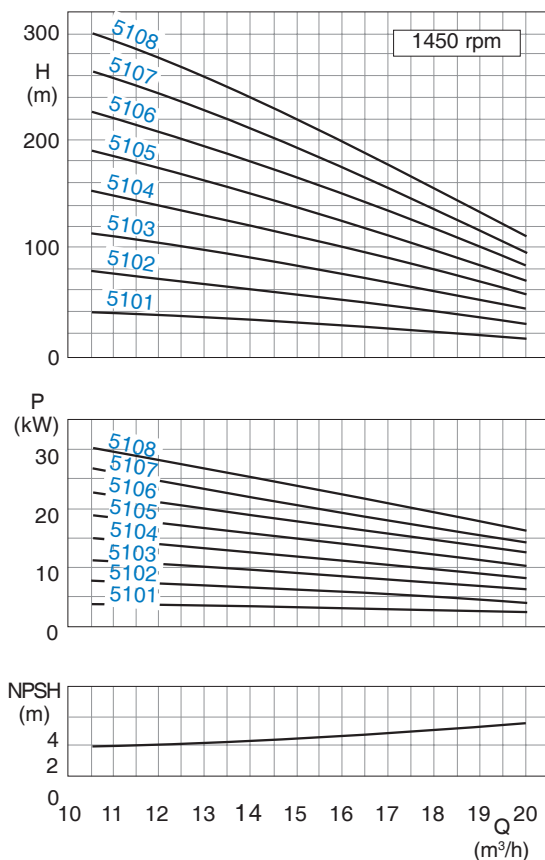
* Design B - dimensions depend on motor brand.

The weight of the pump in design A will be approximately 2,5 kg less.

The weight will be approximately 6% higher when using Stainless steel.

Dimension chart, Pump set drawing and Performance curves

AEH 5100



General:

Values are valid for water $\rho = 1 \text{ kg/dm}^3$ and $v = 1 \text{ cSt}$.

Characteristic tolerances:

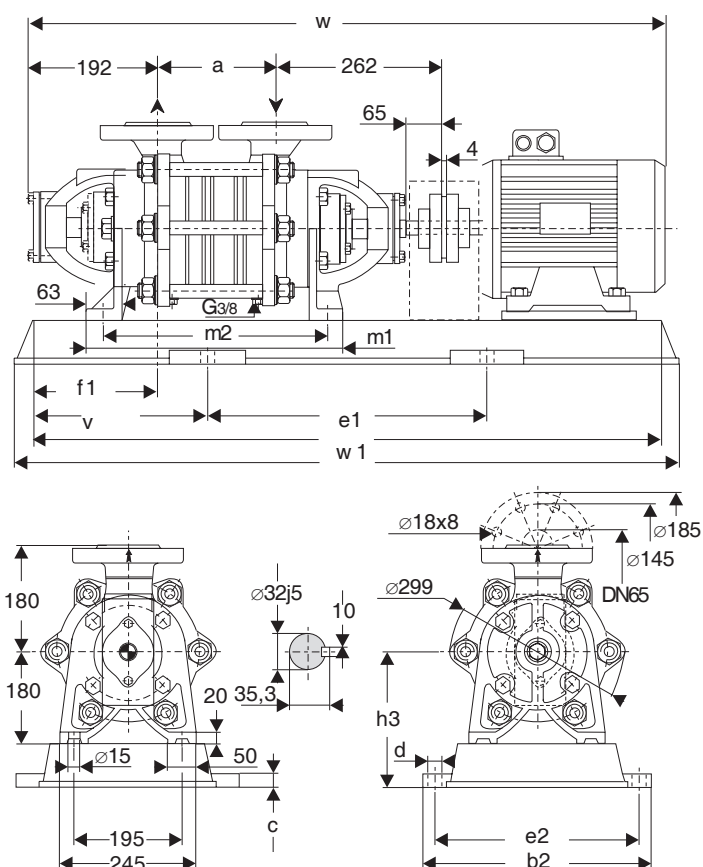
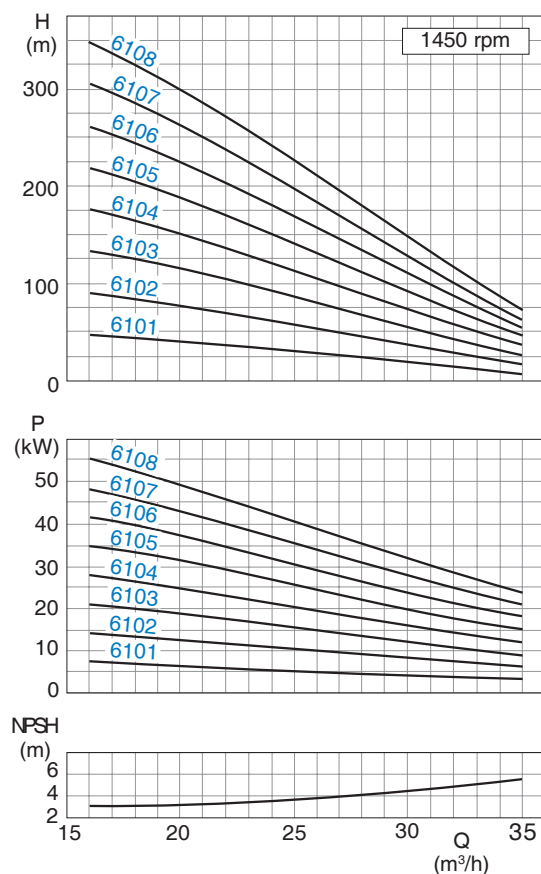
Capacity $\pm 5\%$ - Delivery head $\pm 5\%$ - Power $+ 10\%$.
For designs with a mechanical seal or casing seal of soft Teflon, the tolerance for the delivery head is extended by 2% each.

Pump size	Motor kW	Motor size	Base plate	Coupling	Weight pump	Weight set	a	b2	c	d	e1	e2	v	f1	h3	m1	m2	w*	w1
5101	3	100L	P015	B80	65	118	175	361	25	15	600	325	160	118	210	369	331	970	920
	4	112M				137												991	
5102	5.5	132S	P017	B95	73	184	250	361	25	15	700	325	200	118	220	444	406	1142	1100
	7.5	132M	P385			194		490	30	24	740	440			240			1168	
	11	160M				278												1260	1140
5103	7.5	132M	P017	B95	85	235	325	361	25	15	700	325	200	118	220	519	481	1243	1100
	11	160M	P436	B110		280		540	30	24	840	490	215	118	240			1335	1270
	15	160L				298													
5104	11	160M	P436	B95	92	290	400	540	30	24	840	490	215	118	240	594	556	1410	1270
	15	160L	P487	B110		325		610	35	28	940	550	240	118	260			1472	1420
5105	15	160L		B110		336									260			1547	
	18.5	180M	P487	B125	103	357	475	610	35	28	940	550	240	118	280	669	631	1609	1420
	22	180L				377													
5106	15	160L		B110		387									260			1622	
	18.5	180M	P538	B125	115	408	550	660	35	28	1060	600	280	118	280	744	706	1684	1620
	22	180L				428									300			1742	
	30	200L				509													
5107	18.5	180M		B110		419									280			1759	
	22	180L	P538	B125	130	439	625	660	35	28	1060	600	280	118	280	819	781	1817	1620
	30	200L				520									300				
5108	22	180L	P538	B125	141	480	700	660	35	28	1060	600	280	118	280	894	856	1834	1620
	30	200L	S389			533		540	40		1200	490	300	118	300			1892	1800

* Design B - dimensions depend on motor brand.
The weight of the pump in design A will be approximately 5 kg less.
The weight will be approximately 6% higher when using Stainless steel.

Dimension chart, Pump set drawing and Performance curves

AEH 6100



General:

Values are valid for water $\rho = 1 \text{ kg/dm}^3$ and $\nu = 1 \text{ cSt}$.

Characteristic tolerances:

Capacity $\pm 5\%$ - Delivery head $\pm 5\%$ - Power $+ 10\%$.
For designs with a mechanical seal or casing seal of soft Teflon, the tolerance for the delivery head is extended by 2% each.

Pump size	Motor		Base plate	Coupling	Weight pump	Weight set	a	b2	c	d	e1	e2	v	f1	h3	m1	m2	w*	w1
	kW	size																	
6101	5.5	132S	P017	B95	74	198	195	361	25	15	700	325	200	129	240	412	374	1121	1100
	7.5	132M		B95		218												1147	
6102	11	160M	P385	B95	87	305	285	490	30	24	740	440	200	129	260	502	464	1329	1140
	15	160L	P436	B110		317		540			840	490	215					1391	1270
6103	18.5	180M	P487	B110	99	363	375	610	35	28	940	550	240	129	280	592	554	1543	1420
	22	180L		B125		383													
6104	22	180L	P487	B125	112	396	465	610	35	28	940	550	240	129	280	682	644	1633	1420
	30	200L	P538			517		660			1060	600	280		300			1691	1620
6105	30	200L	P538	B125	124	529	555	660	35	28	1060	600	280	129	300	772	734	1781	1620
	37	225S		B140		598									325			1846	
6106	30	200L	S389	B125	137	544	645	540	40	28	1200	490	300	129	300	862	824	1871	1800
	37	225S	14206	B140		542		640				690			343			1936	
	45	225M		602															
6107	30	200L	S609	B125	149	556	735	730	40	28	1200	670	310	129	300	952	914	1961	1820
	37	225S	14208	B140		545		740			1300	690	325		343			2026	1950
	45	225M		612		368						2121							
	55	250M		14209		B160						664							
6108	37	225S	14211	B140	162	584	825	740	40	28	1300	690	350	129	343	1042	1004	2116	2000
	45	225M				651												2211	2100
	55	250M				14212												B160	702

* Dimensions depend on motor brand.
The weight will be approximately 6% higher when using Stainless steel.

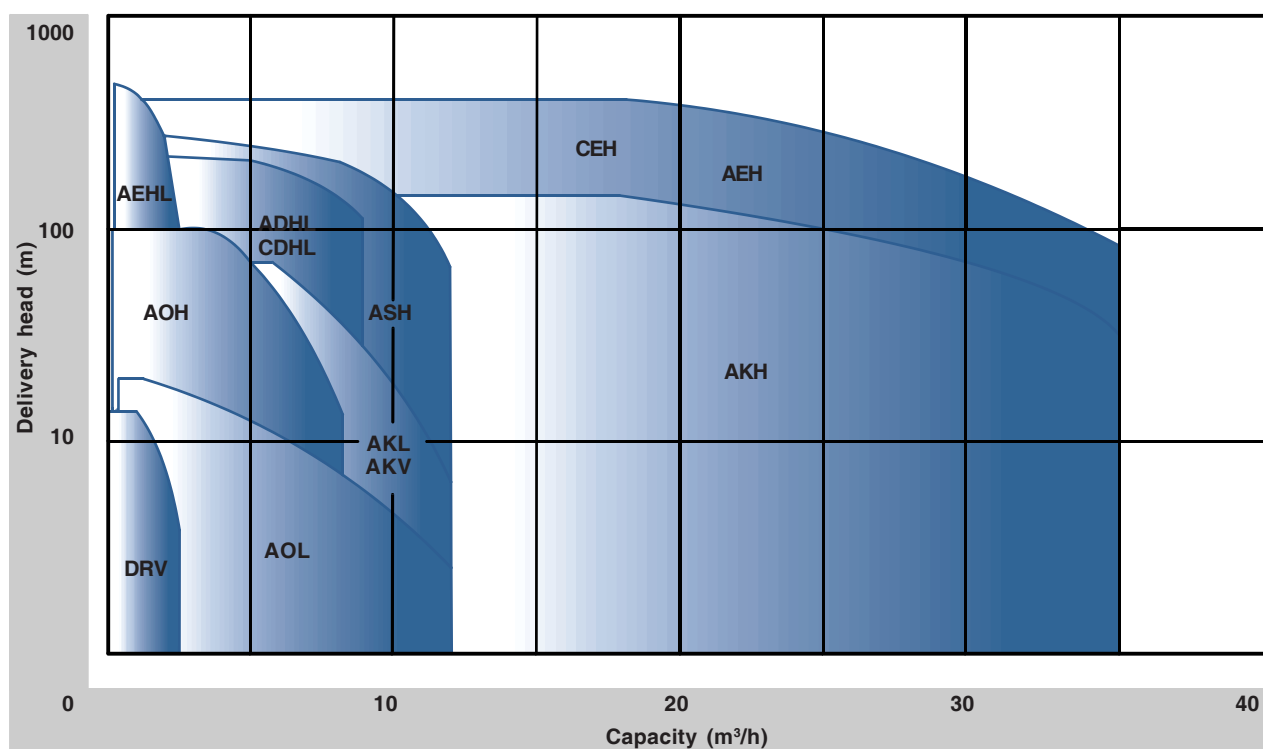
It is the policy of Sterling Fluid Systems to seek continually for ways to improve its products and the right is reserved to alter specifications at anytime without prior notice.

Sterling SIHI Side Channel pumps

Sterling Fluid Systems offers an extensive Side Channel pump range under its brand name Sterling SIHI. Sterling Fluid Systems has more than 80 years of experience in manufacturing, installation and support of Side Channel pumps. The Sterling SIHI Side Channel pumps can be found in a wide application range for the:

- Chemical market
- Pharmaceutical industry
- Petrochemical industry
- Food industry
- Ship yards
- LPG industry
- and many more ...

The Sterling SIHI Side Channel pump range



The benefits of the Sterling SIHI Side Channel pumps

- Self priming
- Gas handling
- High-resistant materials
- Performance curve characteristics
- High efficiency
- Low NPSH_R value
- Modular hydraulic system

The Sterling SIHI Side Channel pumps comply with the highest demands of our customers and are the best solution for the handling of liquids under critical physical conditions.

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E-Mail: sterling@sterling.pl

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