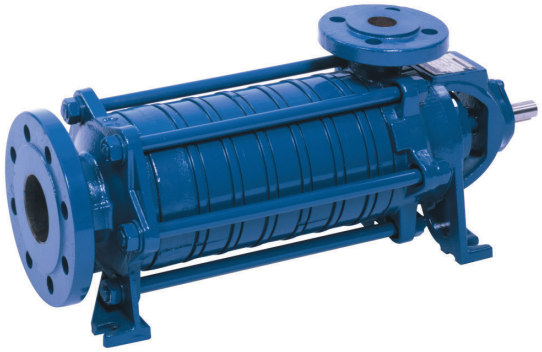
Side Channel pumps

Self-priming, segmental type with very low NPSH

CEH 1201 ... 6108
CEH 1202/5 ... 6108/5
CEH 1202/7 ... 6107/7

Technical data

Capacity:	from 0,4 up to 35 m³/h
Delivery head:	from 10 up to 354 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:	anti-clockwise, (when seen from the drive end)



Application

The Sterling SIHI CEH pump is a self-priming side channel pump capable of handling gas along with the medium and operates at a low noise level.
The CEH pumps are used for problem-free pumping of clean liquids at unfavourable suction side conditions. They are also very suitable for positive suction heads below 0.5m

The different material possibilities with uniform dimensions and performance characteristics as well as the standard exchangeable components, make the CEH particularly recommendable for applications in the pharmaceutical, chemical or petrochemical market as well as in the plastic or oil industry. Because of its low NPSH and positive suction head the CEH is very suitable for the pumping of liquefied gasses and liquids under vapour pressure like condensate, refrigerant, boiler feed water or LPG.

The pumps of the CEH /7 series have a retaining stage to avoid the dry running by controlling the liquid level in the pump. This design is especially developed for the handling of liquids under vapour pressure or when pumping from underground tanks. The series CEH /5 are used for bottom off-loading of liquids under vapour pressure.

Design

Pumps of the series CEH have a segmental type construction with open vane wheel impellers. The construction of the CEH pump is a so-called centrifugal combined system.
This combination pump is suited with a centrifugal stage in serial connection before the side channel stages to obtain a more favourable NPSH.

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.

Pumps of the series CEH /7 are equal to the CEH series but equipped with a retaining stage. This program comprises 6 sizes with 2-7 stages. The series CEH /5 have also 6 sizes but with 2-8 stages.

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

Axial suction branch, discharge branch points 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

One grease lubricated ball bearing according to DIN 625 and one liquid surrounded sleeve bearing (design A). The ball bearing is greased for life.

Direction of rotation

Anti-clockwise, when looking from the drive end.

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

Material design CEH

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						
1080 1090 1140 1141	Intermediate piece						
2100	Shaft	X 20 Cr 13					
2310	Impeller	EN-GJL-250					
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					
4410	Mechanical seal casing	EN-GJL-250			EN-GJS-400-18-LT		
4510	Stuffing box casing						
0241	Bearing bush	CY 10 C / Carbon Antimony *					

* Bearing bush in Carbon Antimony is used only in the high temperature design. This high temperature design is also provided with cup springs and a cooled stuffing box or cooled mechanical seal.

Stainless steel

Pos	Components	Material design	
		4B	4F
1060	Suction casing	G-X 6 CrNiMo 18 10	
1070	Discharge casing		
1080 1090 1140 1141	Intermediate piece		
2100	Shaft	X 5 CrNiMo 17 12 2	
2310	Impeller	G-X5 CrNiMoNb 18 10	
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	
0241	Bearing bush	CY 10 C / Carbon Antimony *	

* Bearing bush in Carbon Antimony is used only in the high temperature design. This high temperature design is also provided with cup springs and a cooled stuffing box or cooled mechanical seal.

Casing seal

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

Drive

By electric motor, type of construction IM B3.
For LPG, EExe or Eex d(e) motors are available.

General comments

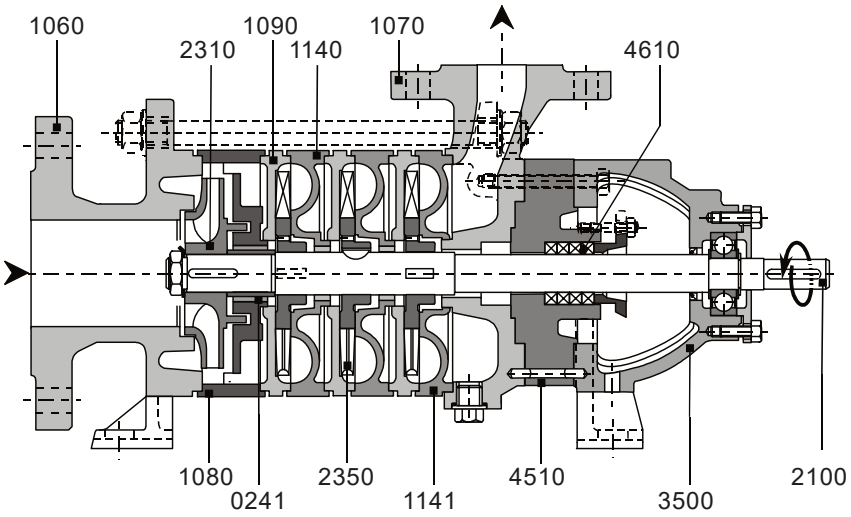
Side Channel pumps with the same hydraulic construction are manufactured in series as:

CEH With magnetic coupling
CEB Vertical tank mounted pump, PN 25 with magnetic coupling
CEV Vertical tank mounted pump, PN 25 with mechanical seal (replacement of CVGP)
AEH High duty pump, PN 40
Also available with magnetic coupling
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 CEH (typical)

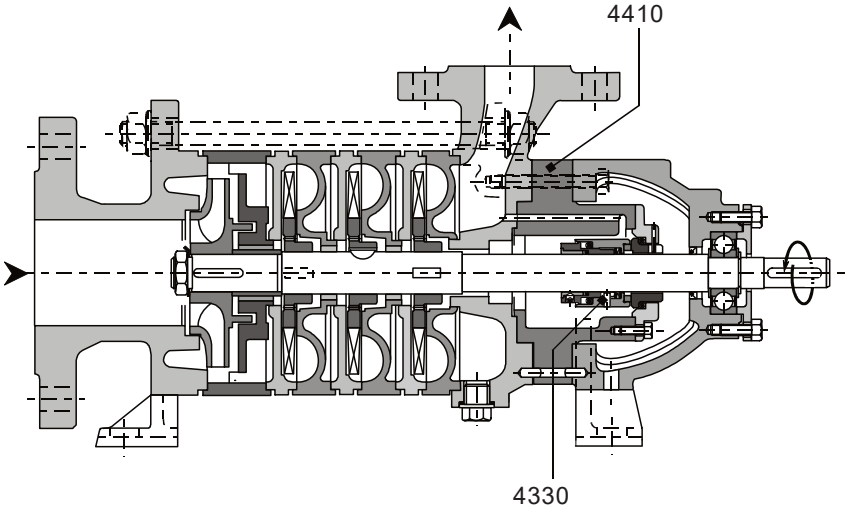
CEHA with stuffing box

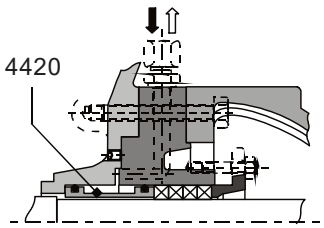


Pos.	Components
0241	Bearing bush
1060	Suction casing
1070	Discharge casing
1080	Intermediate piece
1081	Retaining stage
1090	Suction intermediate piece
1140	Discharge intermediate piece
1141	Discharge intermediate piece
2100	Shaft
2310	Impeller
2350	Vane wheel impeller
3500	Bearing housing
4330	Mechanical seal
4410	Mechanical seal casing
4420	Cooling insert
4510	Stuffing box casing
4610	Stuffing box

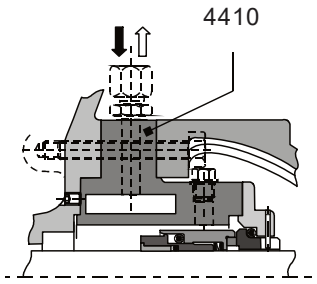
CEH with mechanical seal

Unbalanced as well as balanced mechanical seals are available.



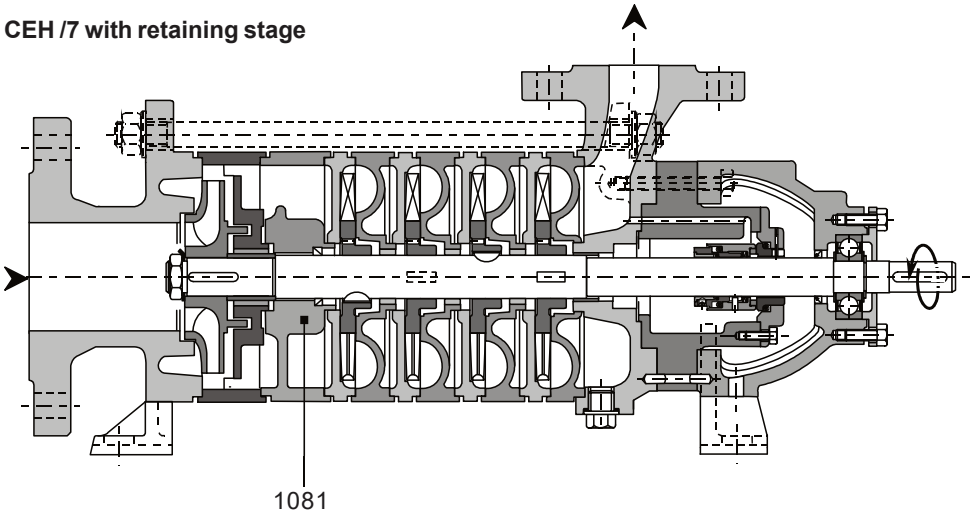


Cooled stuffing box



Cooled mechnical seal

CEH /7 with retaining stage



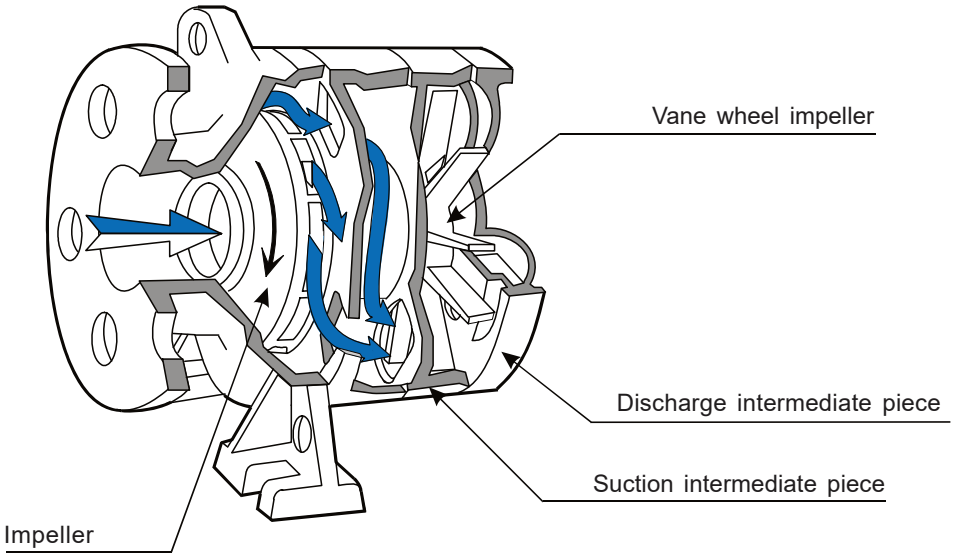
All possible design combinations can be found in the delivery program

Operating principle CEH

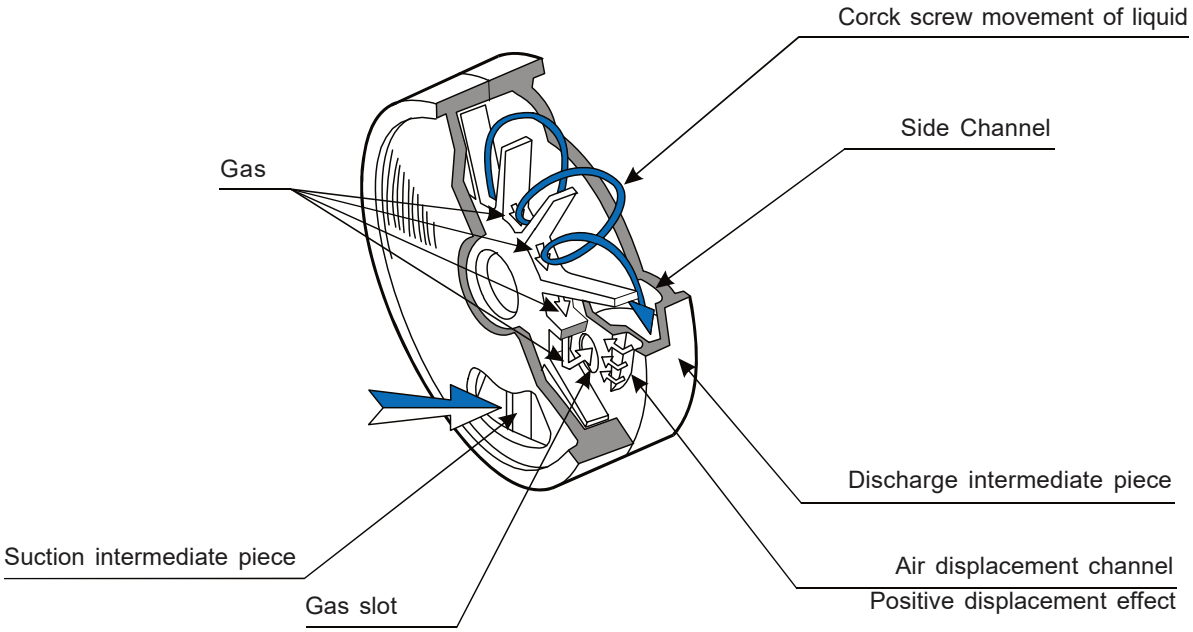
The CEH pump or so-called centrifugal combined system (combination pump) is suited with a low NPSH centrifugal impeller before the side channel stages (series connection). This NPSH inducer stage creates enough pressure to overcome the entrance pressure loss of the first side channel stage or NPSH required.

A side channel stage consist of:

- a suction intermediate piece with the suction port,
- a discharge intermediate piece with the side channel, the air displacement channel at the end of the side channel, the discharge port and the gas slot,
- a vane wheel impeller enclosed by the two intermediate pieces.



The turning of the vane wheel impeller creates an under pressure at the beginning of the side channel (centrifugal effect) and the gas or liquid with gas is drawn in. The air displacement channel provokes a **positive displacement** effect so the gas remaining at the root of the vane wheel impeller is forced out through the gas slot.
The pressure generating is obtained by the repetitive re-entering of the liquid in the side channel (**corkscrew movement**).



A side channel pump can de-aerate and degas the suction line by itself and is thus very suitable for suction lift operation. A side channel pump can handle large quantities of (entrained) gas. Mixtures up to a gas share of 50% are possible. The ability for self-priming and the handling of large amounts of (entrained) gas, will guarantee continuous operation even in case of evaporation and therefore contribute to a higher level of safety in industrial processes.

To avoid cavitation the distance between the liquid level and the entrance at the suction side of the pump is restricted. This distance is related to the NPSH or Net Positive Suction Head. The NPSH for CEH pumps is very low due to it special construction. The axial entrance and its larger diameter results in a less disturbed flow and lower friction losses. Together with the low NPSH of the centrifugal impeller the CEH can handle a positive suction head of less than 0.5 m.
This makes the CEH very suitable for pumping liquids near their boiling point at reasonable economic expenses and the low NPSH guarantees also full output capacity because of operation without cavitation.

Performance range CEH

General conditions

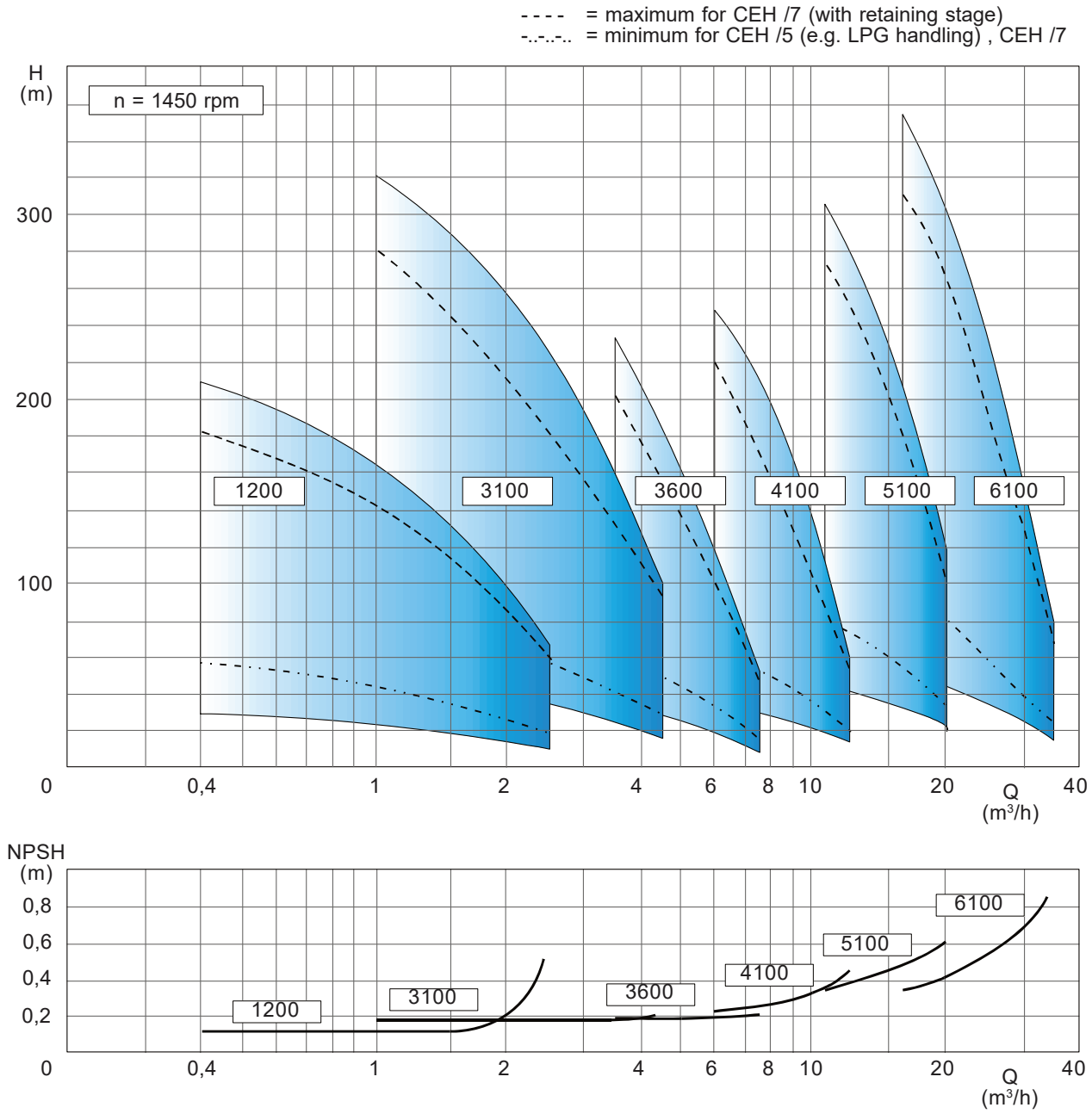
Liquid:	Water
Density:	1 kg/dm³
Viscosity:	1 cSt
Temperature:	20 °C
Atmospheric pressure:	1013 mbar

Characteristic tolerances

Capacity ± 5% - Delivery head ± 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

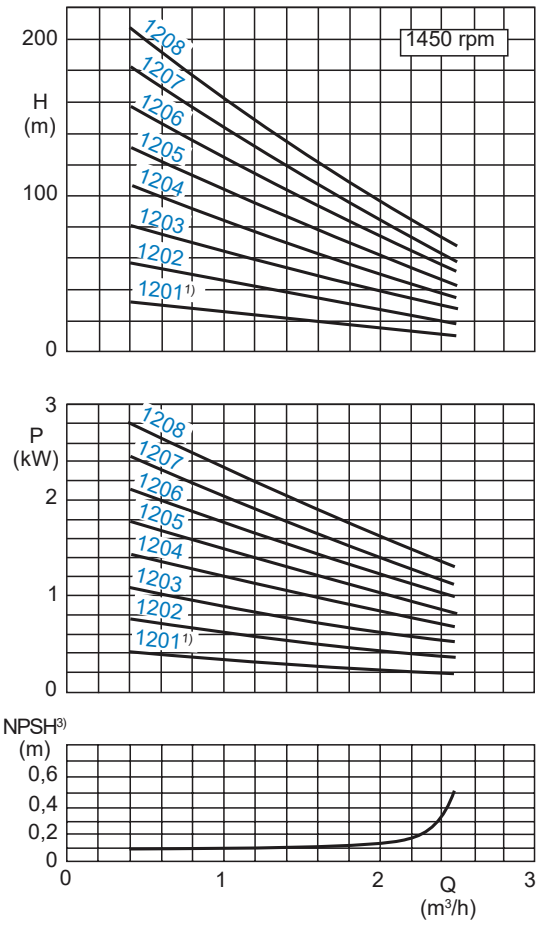
According to ISO 5198

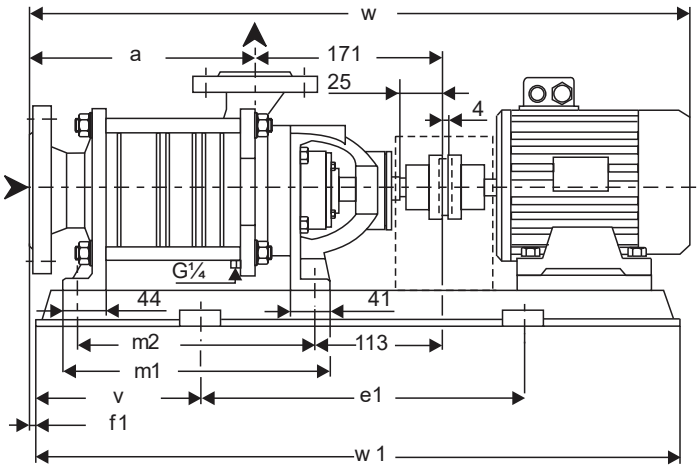


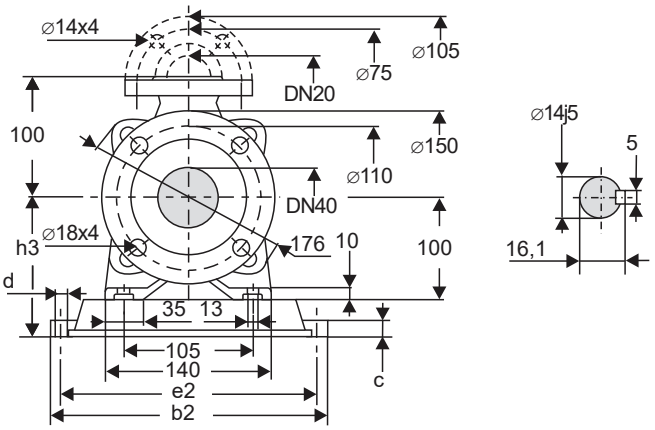
The NPSH curve is suitable for liquids without gas. When using a liquid containing gas (e.g. water 20 °C) a safety margin of 1 m has to be added.

Dimension chart, Pump set drawing and Performance curves

CEH 1200 and CEHA 1200/5







General: Values are valid for water ρ = 1 kg/dm³ and ν = 1 cSt.

Design tolerances: Capacity ± 5% - Delivery head ± 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.

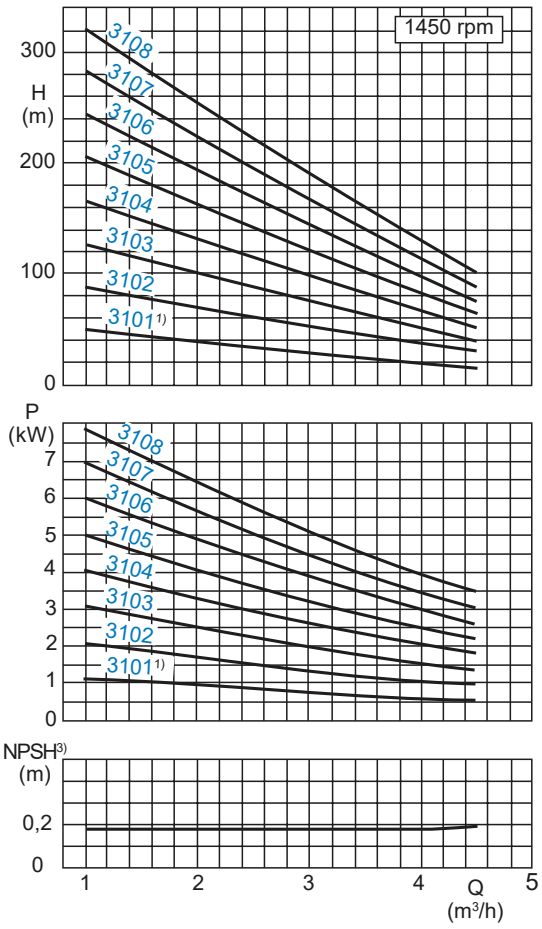
* Dimensions depend upon the motor brand.
1) Not for design CEH /5.
2) For EExe II T3 motors.
3) A safety margin of 1 m has to be added when using a liquid containing gas.

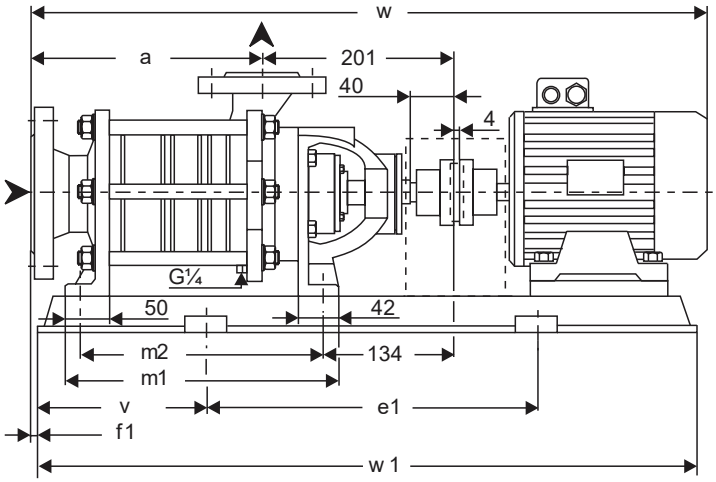
Pump size	Motor kW	Motor kW 2)	Motor size	Base plate	Coupling B	Coupling BDS 2)	Weight pump	Weight set	a	b2	c	d	e1	e2	v	f1	h3	m1	m2	w*	w1
1201	0.37	1)	71	P007	68	1)	18	39	195	317	20	15	350	285	110	-9	135	238	204	609	570
	0.55		80	P008				45		297			400	265	120		140			643	640
1202	0.55	0.55	80	P008	68	76	20	47	229	297	20	15	400	265	120	-9	140	272	238	677	640
	0.75	0.75	80					44													
	1.1	1	90S	P241				56		330	25	19	480	290	125		165			735	730
1203	0.75	0.75	80	P210	68	76	22	52	263	300	25	19	420	260	115	-9	165	306	272	711	650
	1.1	1	90S	P241				58		330			480	290	125					769	730
	1.5	1.35	90L					62													
1204	1.1	1	90S	P241	68	76	24	60	297	330	25	19	480	290	125	-9	165	340	306	803	730
	1.5	1.35	90L					64													
	2.2	2	100L	P272	80	88		75		360			540	320	140					844	820
1205	1.1	1	90S	P272	68	76	26	66	331	360	25	19	540	320	140	-9	165	374	340	837	820
	1.5	1.35	90L					70													
	2.2	2	100L		80	88		77												878	
1206	1.5	1.35	90L	P272	68	76	28	72	365	360	25	19	540	320	140	-9	165	408	374	871	820
	2.2	2	100L	P015	80	88		84		361		15	600	325	160		150			912	920
	3	2.5	100L					85												912	
1207	1.5	1.35	90L	P015	68	76	30	74	399	361	25	15	600	325	160	-9	150	442	408	905	920
	2.2	2	100L		80	88		86												946	
	3	2.5	100L					87													
1208	2.2	2	100L	P015	80	88	32	88	433	361	25	15	600	325	160	-9	150	476	442	980	920
	3	2.5	100L					89													

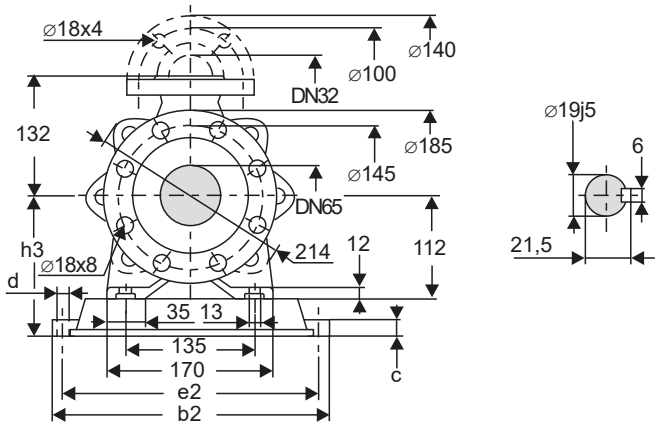
The weight of the pump will be approximately 6% higher when using Stainless steel.

Dimension chart, Pump set drawing and Performance curves

CEH 3100 and CEHA 3100/5







General: Values are valid for water ρ = 1 kg/dm³ and ν = 1 cSt.

Design tolerances: Capacity ± 5% - Delivery head ± 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.

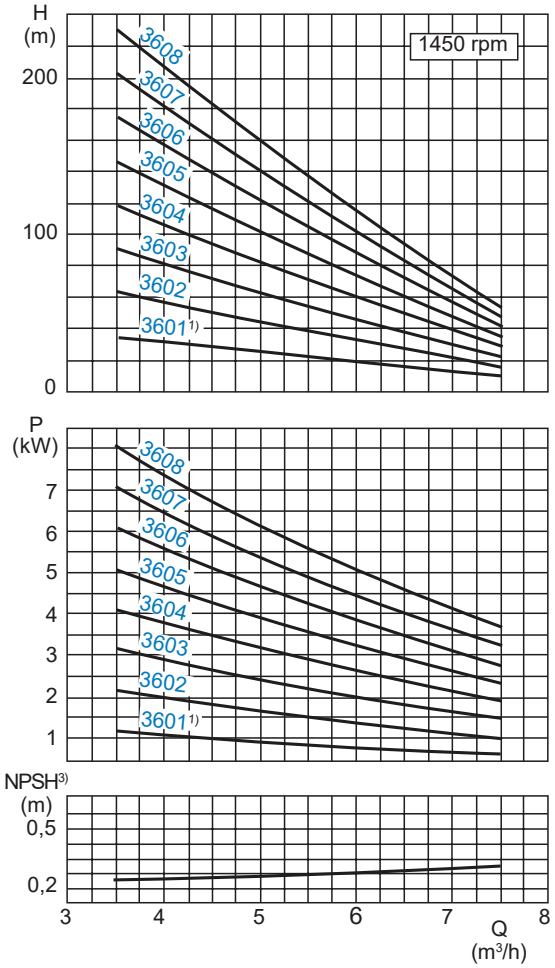
* Dimensions depend upon the motor brand.
1) Not for design CEH /5.
2) For EExe II T3 motors.
3) A safety margin of 1 m has to be added when using a liquid containing gas.

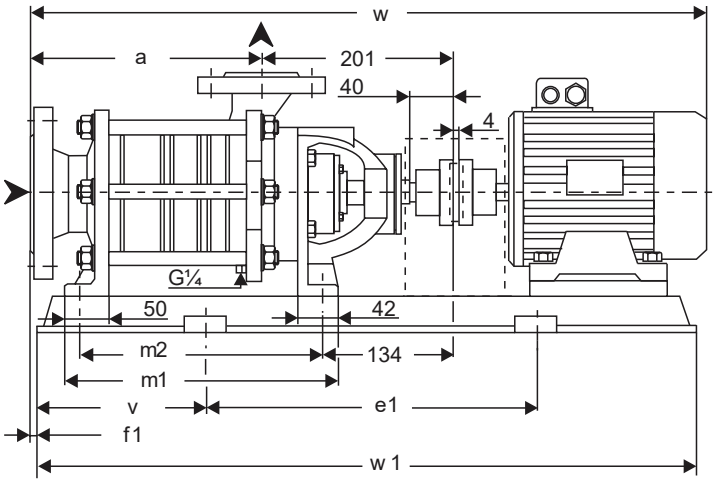
Pump size	Motor kW	Motor kW 2)	Motor size	Base plate	Coupling B	Coupling BDS 2)	Weight pump	Weight set	a	b2	c	d	e1	e2	v	f1	h3	m1	m2	w*	w1
3101	0.75	1)	80	P008	68	1)	31	60	213	297	20	15	400	265	120	-13	152	261	227	691	640
	1.1		90S	P241				67		330	25	19	480	290	125		177			749	730
3102	1.1	1	90S	P241	68	78	34	72	253	330	25	19	480	290	125	-13	177	301	267	789	730
	1.5	1.35	90L					74													
	2.2	2	100L	P272	80	88		81		360			540	320	140					830	820
3103	2.2	2	100L	P272	80	88	38	89	293	360	25	19	540	320	140	-13	177	341	307	870	820
	3	2.5	100L					90													
3104	2.2	2	100L	P272	80	88	42	93	333	360	25	19	540	320	140	-13	177	381	347	910	820
	3	2.5	100L					94													
	4	3.6	112M	P015				117		361		15	600	325	160		162			931	920
3105	3	2.5	100L	P015	80	88	45	102	373	361	25	15	600	325	160	-13	162	421	387	950	920
	4	3.6	112M					120												971	
	5.5	5	132S	P017	95	103		158					700		200		192			1047	1100
3106	4	3.6	112M	P015	80	88	48	123	413	361	25	15	600	325	160	-13	162	461	427	1011	920
	5.5	5	132S	P017	95	103		161					700		200		192			1087	1100
	7.5	6.8	132M					171												1113	
3107	4	3.6	112M	P017	80	88	52	143	453	361	25	15	700	325	200	-13	172	501	467	1051	1100
	5.5	5	132S		95	103		165									192			1127	
	7.5	6.8	132M					205												1153	
3108	5.5	5	132S	P017	95	103	55	198	493	361	25	15	700	325	200	-13	192	541	507	1167	1100
	7.5	6.8	132M					208												1193	
	11	10	160M	P436				253		540	30	24	840	490	215		240			1285	1270

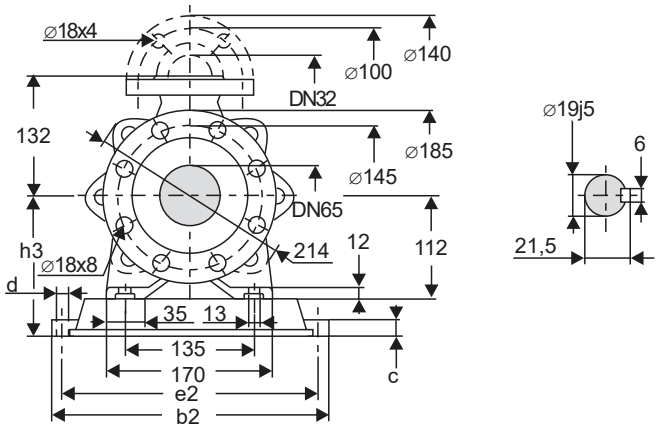
The weight of the pump will be approximately 6% higher when using Stainless steel.

Dimension chart, Pump set drawing and Performance curves

CEH 3600 and CEHA 3600/5







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1) Not for design CEH /5.
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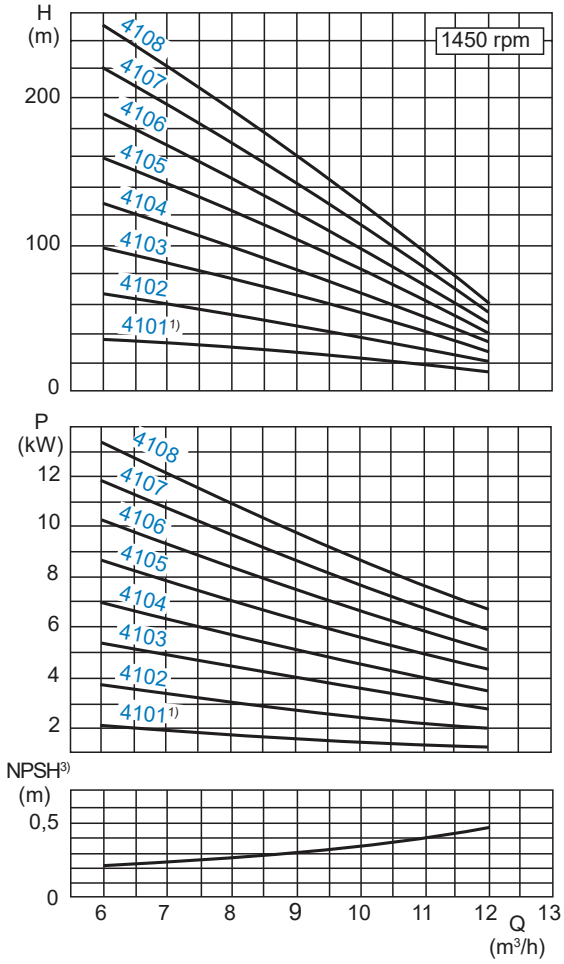
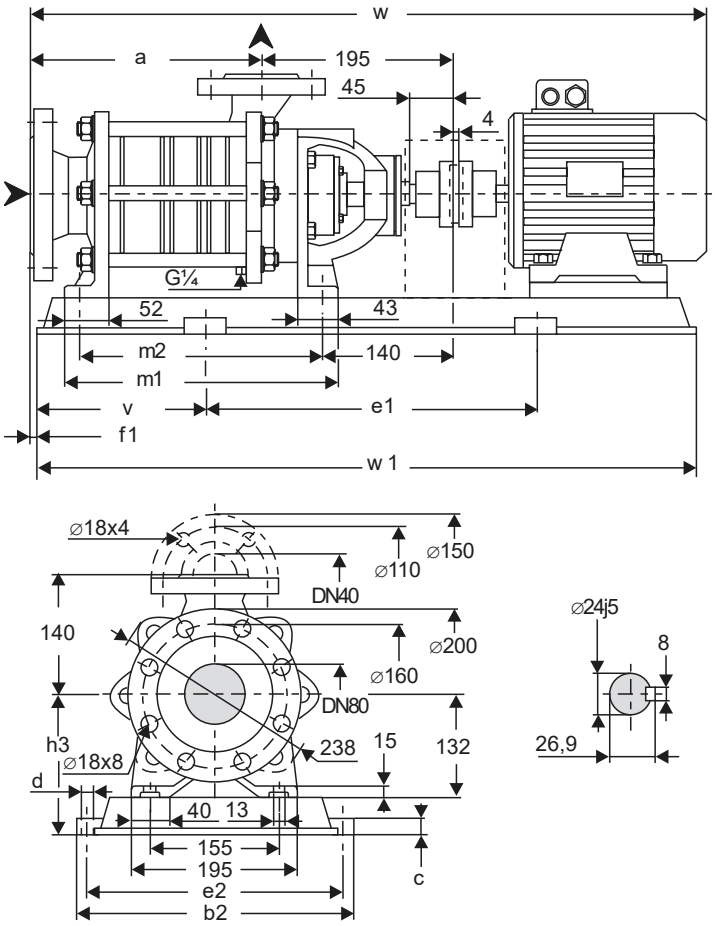
3601	0.75	1)	80	P008	68	1)	31	55	213	297	20	15	400	265	120	-13	152	261	227	691	640
	1.1		90S	P241				67		330	25	19	480	290	125		177			749	730
	1.5		90L					74													
3602	1.5	1.35	90L	P241	68	76	34	74	253	330	25	19	480	290	125	-13	177	301	267	789	730
	2.2	2	100L	P272	80	88		89		360			540	320	140					830	820
3603	2.2	2	100L	P272	80	88	38	89	293	360	25	19	540	320	140	-13	177	341	307	870	820
	3	2.5	100L					101													
	4	3.6	112M					119												891	
3604	3	2.5	100L	P272	80	88	42	105	333	360	25	19	540	320	140	-13	177	381	347	910	820
	4	3.6	112M	P015				117		361		15	600	325	160		162			931	920
	5.5	5	132S		95	103		152									182			1007	
3605	3	2.5	100L	P015	80	88	45	102	373	361	25	15	600	325	160	-13	162	421	387	950	920
	4	3.6	112M					120												971	
	5.5	5	132S	P017	95	103		171					700		200		192			1047	1100
3606	4	3.6	112M	P015	80	88	48	123	413	361	25	15	600	325	160	-13	162	461	427	1011	920
	5.5	5	132S	P017	95	103		161					700		200		192			1087	1100
	7.5	6.8	132M					171												1113	
3607	5.5	5	132S	P017	95	103	52	165	453	361	25	15	700	325	200	-13	192	501	467	1127	1100
	7.5	6.8	132M					168												1153	
3608	5.5	5	132S	P017	95	103	55	161	493	361	25	15	700	325	200	-13	192	541	507	1167	1100
	7.5	6.8	132M					171												1193	
	11	10	160M	P436				254		540	30	24	840	490	215		240			1285	1270

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

Dimension chart, Pump set drawing and Performance curves

CEH 4100 and CEHA 4100/5





General: Values are valid for water ρ = 1 kg/dm³ and ν = 1 cSt.

Design tolerances: Capacity ± 5% - Delivery head ± 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.

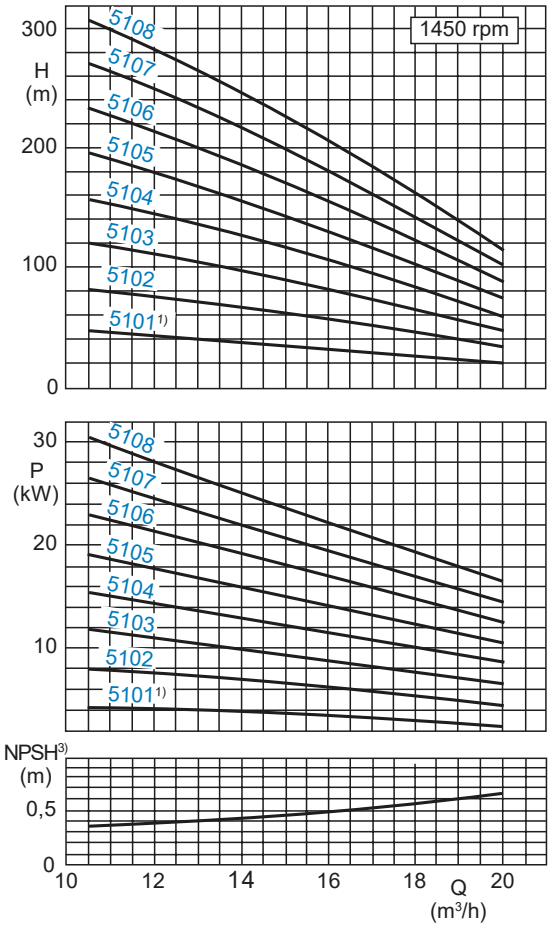
* Dimensions depend upon the motor brand.
1) Not for design CEH /5.
2) For EExe II T3 motors.
3) A safety margin of 1 m has to be added when using a liquid containing gas.

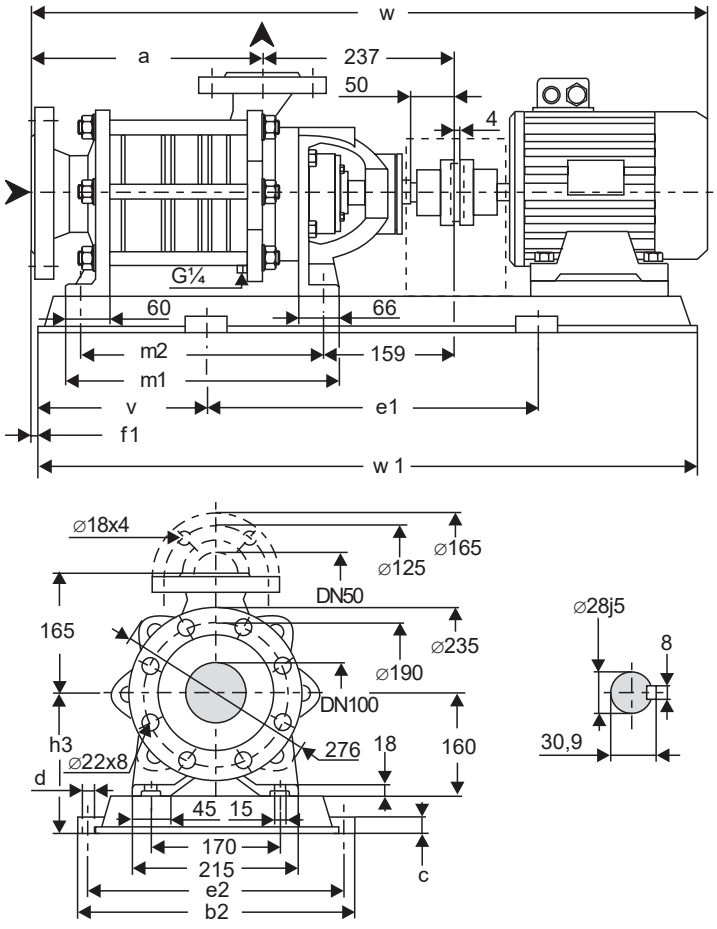
Pump size	Motor kW	Motor kW 2)	Motor size	Base plate	Coupling B	Coupling BDS 2)	Weight pump	Weight set	a	b2	c	d	e1	e2	v	f1	h3	m1	m2	w*	w1
4101	1.5	1)	90L	P241	68	1)	41	81	268	330	25	19	480	290	125	-23	197	294	260	798	730
	2.2		100L	P272	80			95		360			540	320	140					839	820
4102	2.2	2	100L	P272	80	88	47	98	323	360	25	19	540	320	140	-23	197	349	315	894	820
	3	2.5	100L					110													
	4	3.6	112M					128												915	
4103	4	3.6	112M	P015	80	88	53	128	378	361	25	15	600	325	160	-23	182	404	370	970	920
	5.5	5	132S	P017	95	103		179					700		200		192			1046	1100
4104	5.5	5	132S	P017	95	103	59	172	433	361	25	15	700	325	200	-23	192	459	425	1101	1100
	7.5	6.8	132M					182												1127	
4105	5.5	5	132S	P017	95	103	65	178	488	361	25	15	700	325	200	-23	192	514	480	1156	1100
	7.5	6.8	132M					181												1182	
	11	10	160M	P385				264		490	30	24	740	440			240			1274	1140
4106	7.5	6.8	132M	P385	95	103	70	196	543	490	30	24	740	440	200	-23	212	569	535	1237	1140
	11	10	160M	P436				269		540			840	490	215		240			1329	1270
4107	7.5	6.8	132M	P436	95	103	76	202	598	540	30	24	840	490	215	-23	212	624	590	1292	1270
	11	10	160M					275									240			1384	
	15	13.5	160L	P487	110	118		349		610	35	28	940	550	240		260			1446	1420
4108	11	10	160M	P487	95	103	82	281	653	610	35	28	940	550	240	-23	260	679	645	1439	1420
	15	13.5	160L		110	118		355												1501	1420

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

Dimension chart, Pump set drawing and Performance curves

CEH 5100 and CEHA 5100/5





General: Values are valid for water ρ = 1 kg/dm³ and ν = 1 cSt.

Design tolerances: Capacity ± 5% - Delivery head ± 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.

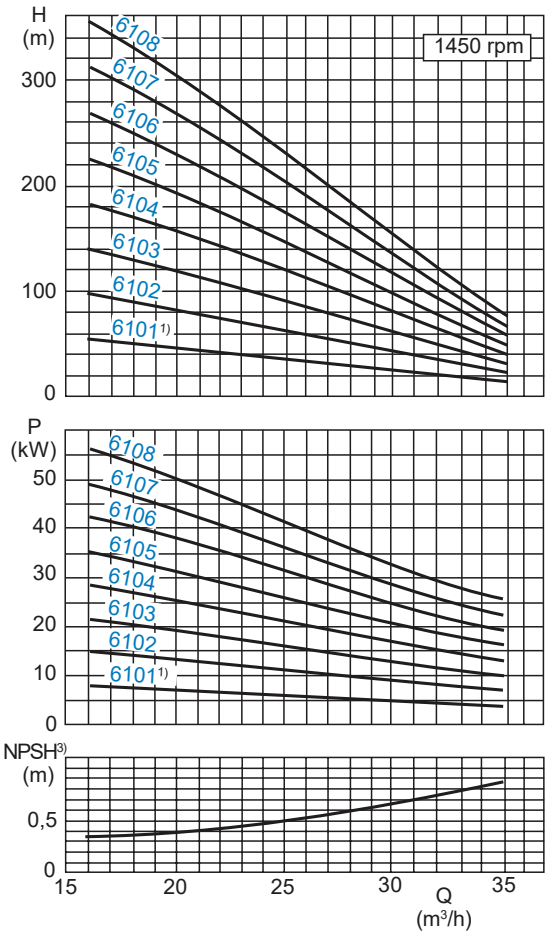
* Dimensions depend upon the motor brand.
1) Not for design CEH /5.
2) For EExe II T3 motors.
3) A safety margin of 1 m has to be added when using a liquid containing gas.

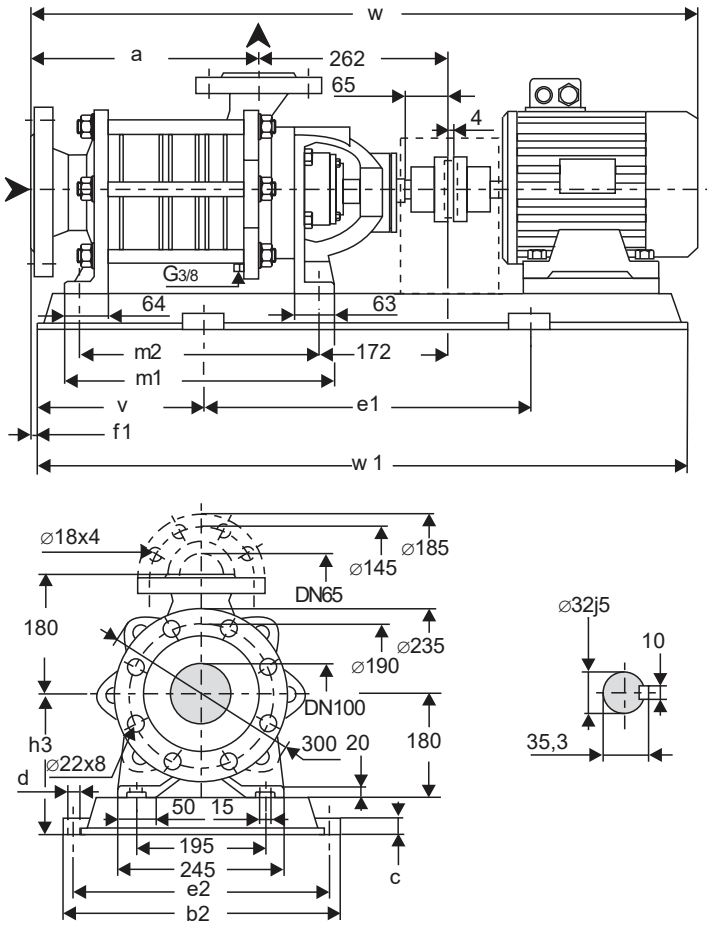
Pump size	Motor kW	Motor kW 2)	Motor size	Base plate	Coupling B	Coupling BDS 2)	pump	set	a	b2	c	d	e1	e2	v	f1	h3	m1	m2	w*	w1
5101	3	1)	100L	P272	80	1)	60	123	305	360	25	19	540	320	140	-28	225	353	315	918	820
	4		112M	P015				162		361		15	600	325	160		210			939	920
	5.5		132S		95			170												1015	
5102	5.5	5	132S	P017	95	103	70	183	380	361	25	15	700	325	200	-28	220	428	390	1090	1100
	7.5	6.8	132M					193												1116	
	11	10	160M	P385				269		490	30	24	740	440			240			1208	1140
5103	7.5	6.8	132M	P017	95	103	80	196	455	361	25	15	700	325	200	-28	220	503	465	1191	1100
	11	10	160M	P385				279		490	30	24	740	440			240			1283	1140
	15	13.5	160L	P436	110	118		353		540			840	490	215					1345	1270
5104	11	10	160M	P436	95	103	90	289	530	540	30	24	840	490	215	-28	240	578	540	1358	1270
	15	13.5	160L		110	118		363												1420	
5105	15	13.5	160L	P487	110	118	101	374	605	610	35	28	940	550	240	-28	260	653	615	1495	1420
	18.5	15	180M					395									280			1557	
	22	17.5	180L		125	135		415													
5106	15	13.5	160L	P487	110	118	111	384	680	610	35	28	940	550	240	-28	260	728	690	1570	1420
	18.5	15	180M	P538				423		660	35		1060	600	280		280			1632	1620
	22	17.5	180L		125	135		425													
	30	24	200L					506									300			1690	
5107	18.5	15	180M	P538	110	118	121	415	755	660	35	28	1060	600	280	-28	280	803	765	1707	1620
	22	17.5	180L		125	135		435									300			1765	
	30	24	200L					516													
5108	22	17.5	180L	P538	125	135	132	446	830	660	35	28	1060	600	280	-28	280	878	840	1782	1620
	30	24	200L	S389				527		540	40		1200	490	300		300			1840	1800

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

Dimension chart, Pump set drawing and Performance curves

CEH 6100 and CEHA 6100/5





General: Values are valid for water ρ = 1 kg/dm³ and ν = 1 cSt.

Design tolerances: Capacity ± 5% - Delivery head ± 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.

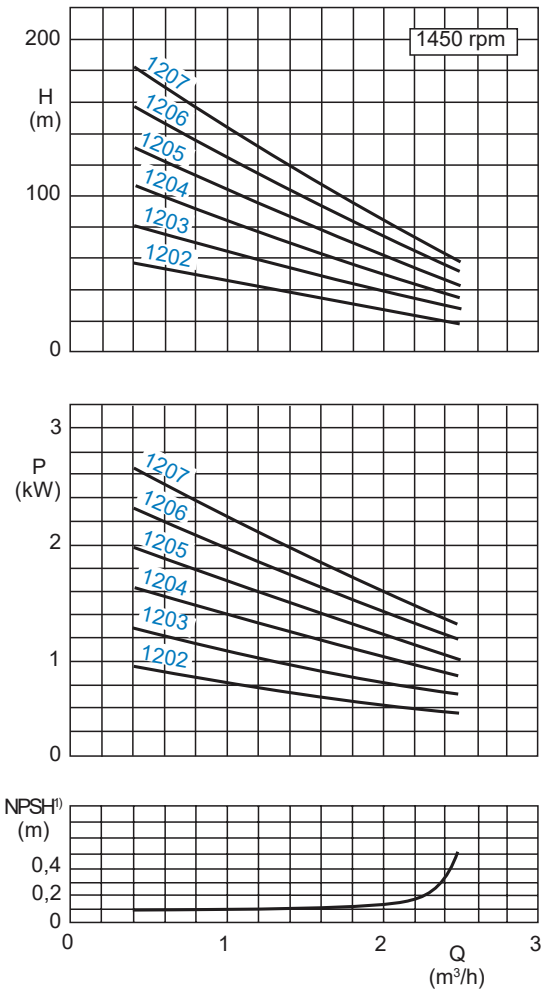
* Dimensions depend upon the motor brand.
1) Not for design CEH /5.
2) For EExe II T3 motors.
3) A safety margin of 1 m has to be added when using a liquid containing gas.

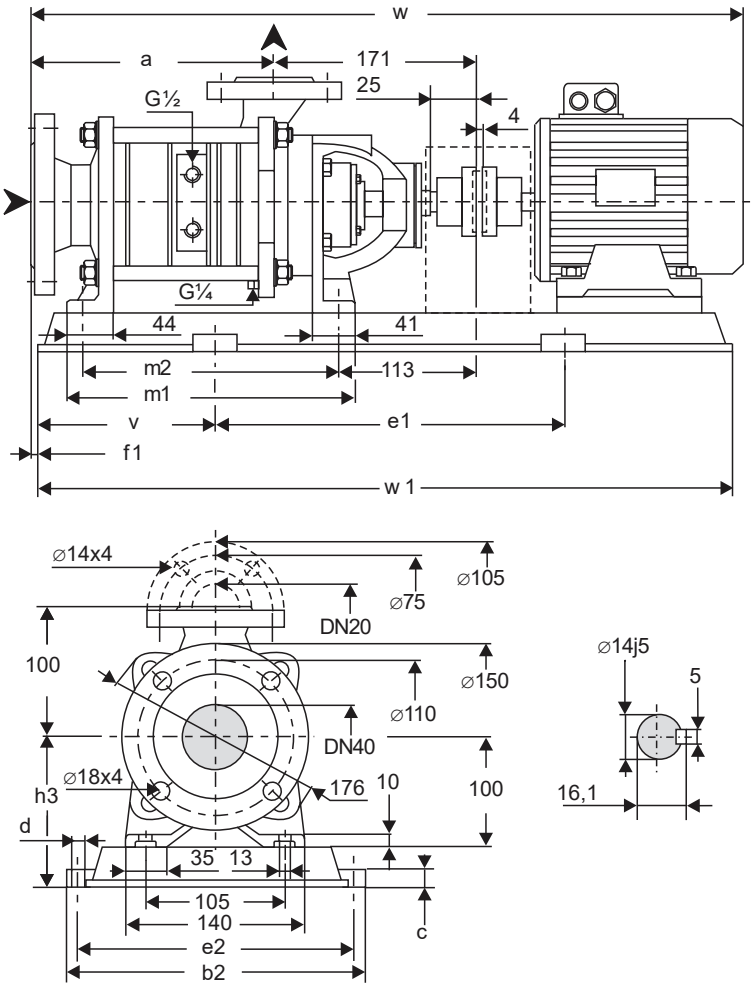
Pump size	Motor kW	Motor kW 2)	Motor size	Base plate	Coupling B	Coupling BDS 2)	Weight pump	Weight set	a	b2	c	d	e1	e2	v	f1	h3	m1	m2	w*	w1
6101	5.5	1)	132S	P017	95	1)	80	206	338	361	25	15	700	325	200	-35	240	391	353	1073	1100
	7.5		132M					203												1099	
6102	11	10	160M	P385	95	103	92	291	428	490	30	24	740	440	200	-35	260	481	443	1281	1140
	15	13.5	160L	P436	110	118		365		540			840	490	215					1343	1270
6103	18.5	15	180M	P487	110	118	105	404	518	610	35	28	940	550	240	-35	280	571	533	1495	1420
	22	17.5	180L		125	135		419													
6104	22	17.5	180L	P487	125	135	117	431	608	610	35	28	940	550	240	-35	280	661	623	1585	1420
	30	24	200L	P538				512		660			1060	600	280		300			1643	1620
6105	30	24	200L	P538	125	135	130	525	698	660	35	28	1060	600	280	-35	300	751	713	1733	1620
	37	30	225S		140	152		594									325			1798	
6106	30	24	200L	P538	125	135	142	537	788	660	35	28	1060	600	280	-35	300	841	803	1823	1620
	37	30	225S	S609	140	152		606		730	40		1200	670	310		325			1888	1820
	45	36	225M					670													
6107	30	24	200L	S389	125	135	155	550	878	540	40	28	1200	490	300	-35	300	931	893	1913	1800
	37	30	225S	S609	140	152		619		730				670	310		325			1978	1820
	45	36	225M					683													
6108	37	30	225S	14211	140	152	167	532	968	740	40	28	1300	690	350	-35	345	1021	983	2003	2000
	45	36	225M					630												2080	
	55	44	250M	14212	160	-		701							400		370			2125	2100

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

Dimension chart, Pump set drawing and Performance curves

CEHA 1200/7 (with retaining stage)





General: Values are valid for water ρ = 1 kg/dm³ and ν = 1 cSt.

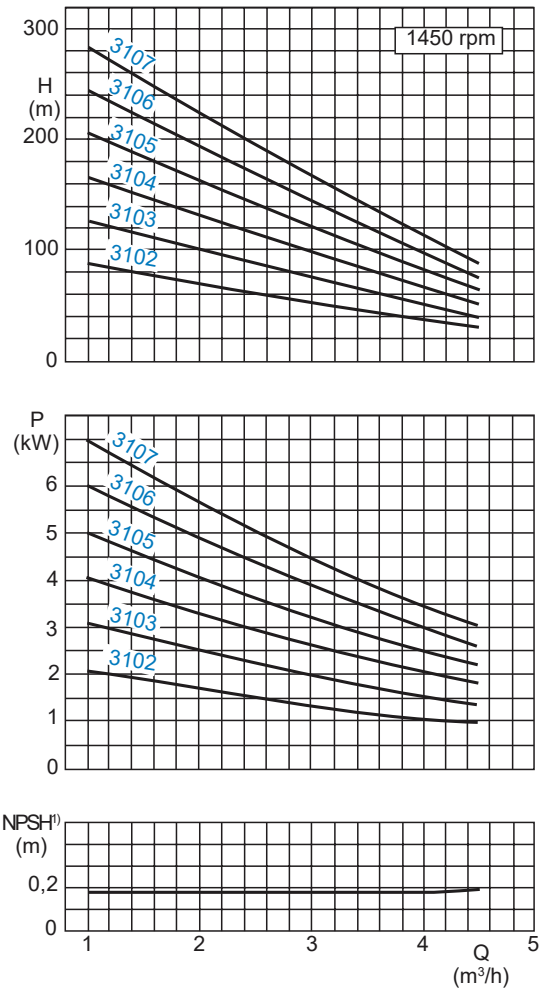
Design tolerances: Capacity ± 5% - Delivery head ± 5% - Power + 10%.
For designs with a mechanical seal or casing seal of soft Teflon, the tolerance for the delivery head is extended by 2% each.

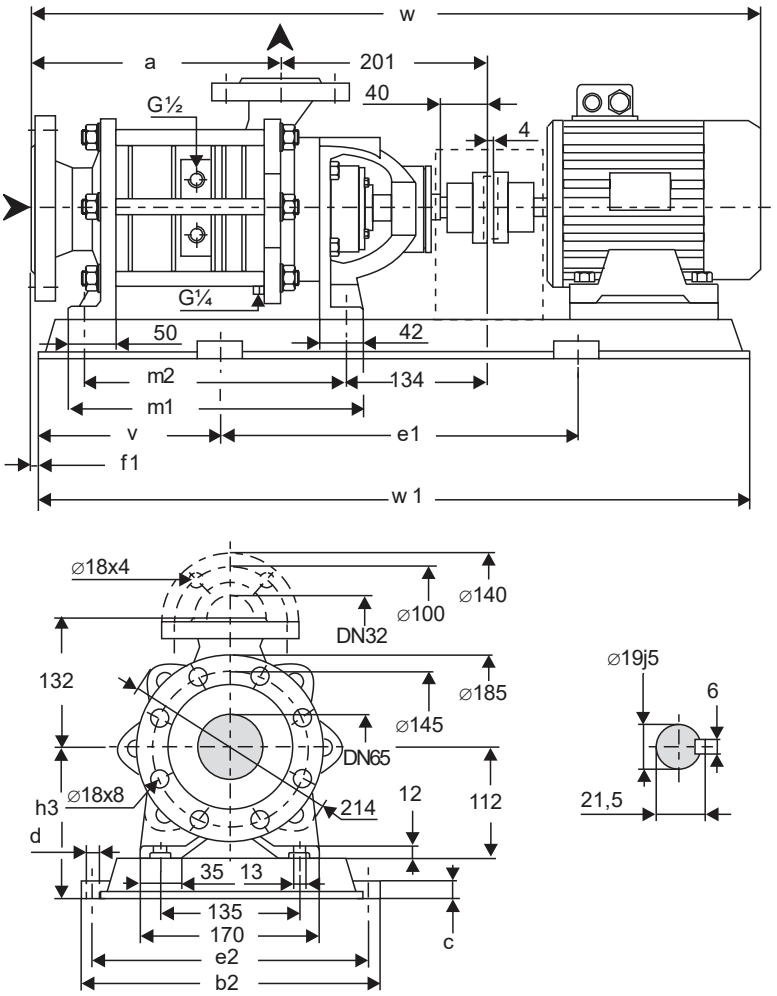
Pump size	Motor kW	Motor size	Base plate	Coupling	Weight pump	Weight set	a	b2	c	d	e1	e2	v	f1	h3	m1	m2	w*	w1
1202/7	0.55	80	P210	BDS76	22	52	263	300	25	19	420	260	115	-9	165	306	272	709	650
	0.75	80				53													
1203/7	0.75	80	P241	BDS76	24	54	297	330	25	19	480	290	125	-9	165	340	306	743	730
	1.1	90S				64												796	
1204/7	1.1	90S	P272	BDS76	26	70	331	360	25	19	540	320	140	-9	165	374	340	830	820
	1.5	90L				71													
1205/7	1.5	90L	P272	BDS76	28	73	365	360	25	19	540	320	140	-9	165	408	374	864	820
	2	100L	P015	BDS88		84		361		15	600	325	160		150			922	
1206/7	1.5	90L	P015	BDS76	30	69	399	361	25	15	600	325	160	-9	150	442	408	898	920
	2	100L		BDS88		86												956	
1207/7	1.5	90L	P015	BDS76	32	71	433	361	25	15	600	325	160	-9	150	476	442	932	920
	2	100L		BDS88		91												990	

[1] A safety margin of 1 m has to be added when using a liquid containing gas.
* Dimensions depend upon the motor brand.

Dimension chart, Pump set drawing and Performance curves

CEHA 3100/7 (with retaining stage)





General: Values are valid for water ρ = 1 kg/dm³ and ν = 1 cSt.

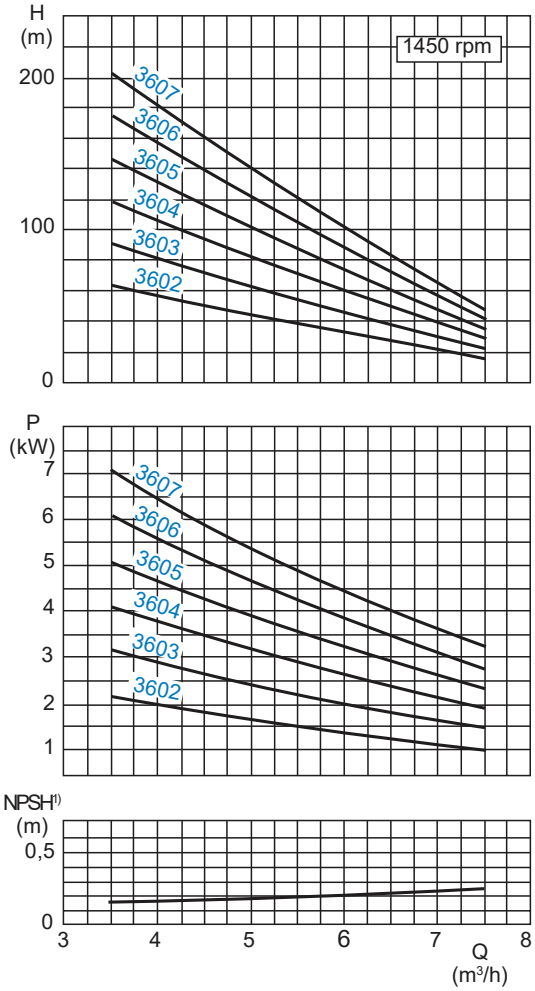
Design tolerances: Capacity ± 5% - Delivery head ± 5% - Power + 10%.
For designs with a mechanical seal or casing seal of soft Teflon, the tolerance for the delivery head is extended by 2% each.

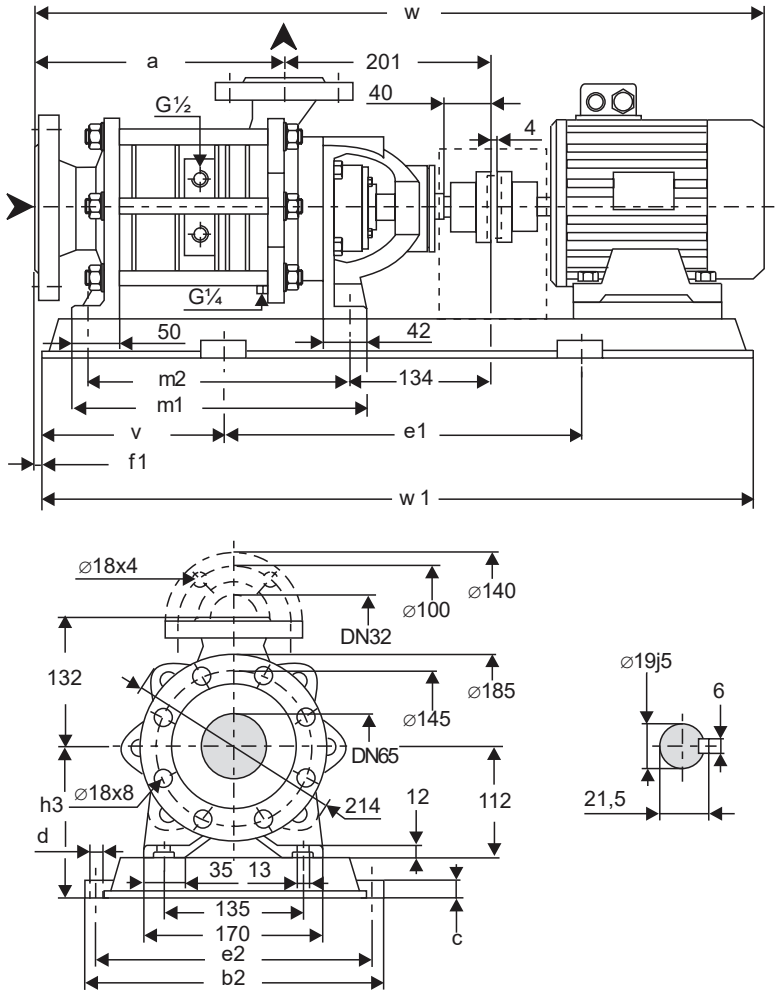
Pump size	Motor kW	Motor size	Base plate	Coupl.	Weight pump	Weight set	a	b2	c	d	e1	e2	v	f1	h3	m1	m2	w*	w1
3102/7	1.5	90L	P272	BDS76	38	87	293	360	25	19	540	320	140	-13	177	341	307	822	820
	2	100L		BDS88		100												880	
3103/7	2	100L	P272	BDS88	42	104	333	360	25	19	540	320	140	-13	177	381	347	920	820
	2.5	100L				106													
3104/7	2.5	100L	P015	BDS88	45	101	373	361	25	15	600	325	160	-13	162	421	387	960	920
	3.6	112M				107												966	
3105/7	2.5	100L	P015	BDS88	48	107	413	361	25	15	600	325	160	-13	162	461	427	1000	920
	3.6	112M				110												1006	
3106/7	3.6	112M	P017	BDS88	52	117	453	361	25	15	700	325	200	-13	172	501	467	1046	1100
	5	132S		BDS103		151									192			1142	
3107/7	3.6	112M	P017	BDS88	55	120	493	361	25	15	700	325	200	-13	172	541	507	1086	1100
	5	132S		BDS103		154									192			1182	

¹⁾ A safety margin of 1 m has to be added when using a liquid containing gas.
* Dimensions depend upon the motor brand.

Dimension chart, Pump set drawing and Performance curves

CEHA 3600/7 (with retaining stage)





General: Values are valid for water ρ = 1 kg/dm³ and ν = 1 cSt.

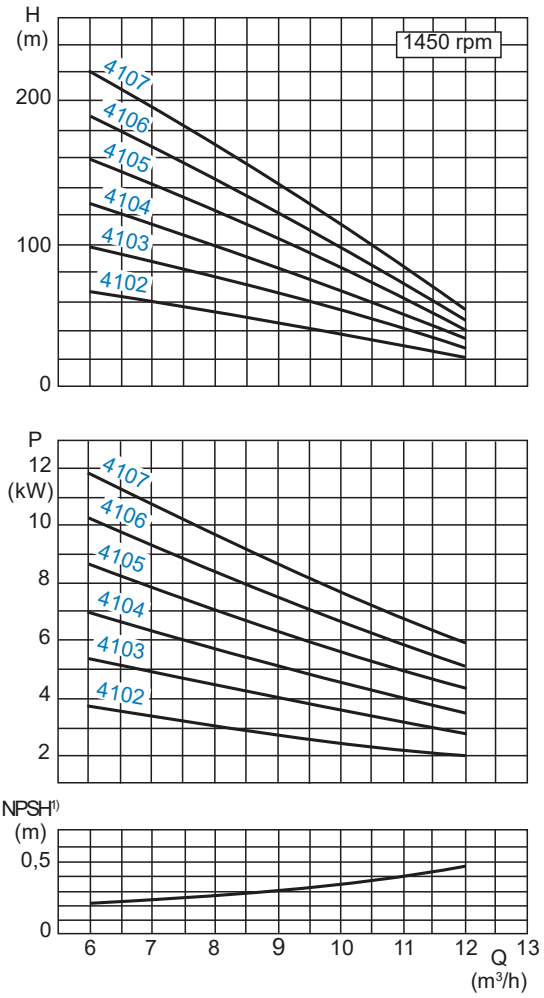
Design tolerances: Capacity ± 5% - Delivery head ± 5% - Power + 10%.
For designs with a mechanical seal or casing seal of soft Teflon, the tolerance for the delivery head is extended by 2% each.

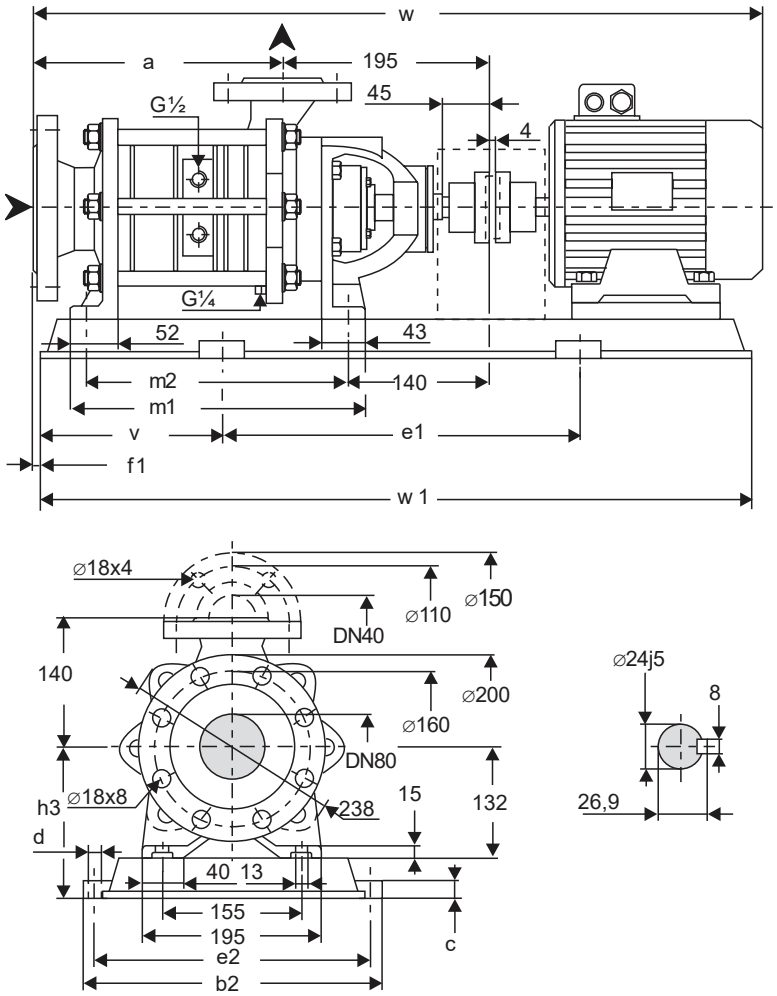
Pump size	Motor kW	Motor size	Base plate	Coupl.	Weight pump	Weight set	a	b2	c	d	e1	e2	v	f1	h3	m1	m2	w*	w1
3602/7	1.5	90L	P272	BDS76	38	87	293	360	25	19	540	320	140	-13	177	341	307	822	820
	2	100L		BDS88		100												880	
3603/7	2	100L	P272	BDS88	42	104	333	360	25	19	540	320	140	-13	177	381	347	920	820
	2.5	100L				106													
3604/7	2.5	100L	P015	BDS88	45	101	373	361	25	15	600	325	160	-13	162	421	387	960	920
	3.6	112M				107												966	
3605/7	2.5	100L	P015	BDS88	48	107	413	361	25	15	600	325	160	-13	162	461	427	1000	920
	3.6	112M				110												1006	
3606/7	3.6	112M	P017	BDS88	52	117	453	361	25	15	700	325	200	-13	172	501	467	1046	1100
	5	132S		BDS103		151									192			1142	
3607/7	3.6	112M	P017	BDS88	55	120	493	361	25	15	700	325	200	-13	172	541	507	1086	1100
	5	132S		BDS103		154									192			1182	

1) A safety margin of 1 m has to be added when using a liquid containing gas.
* Dimensions depend upon the motor brand.

Dimension chart, Pump set drawing and Performance curves

CEHA 4100/7 (with retaining stage)





General: Values are valid for water ρ = 1 kg/dm³ and ν = 1 cSt.

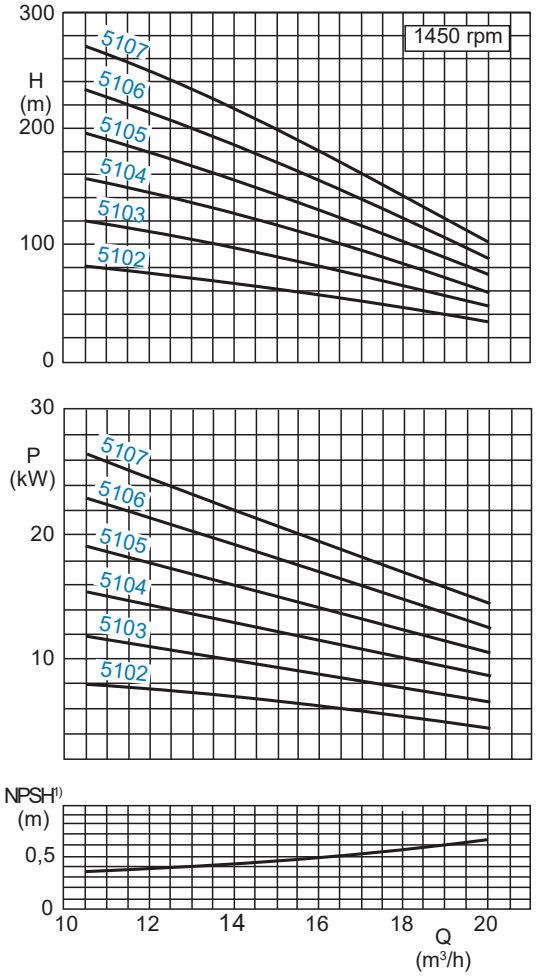
Design tolerances: Capacity ± 5% - Delivery head ± 5% - Power + 10%.
For designs with a mechanical seal or casing seal of soft Teflon, the tolerance for the delivery head is extended by 2% each.

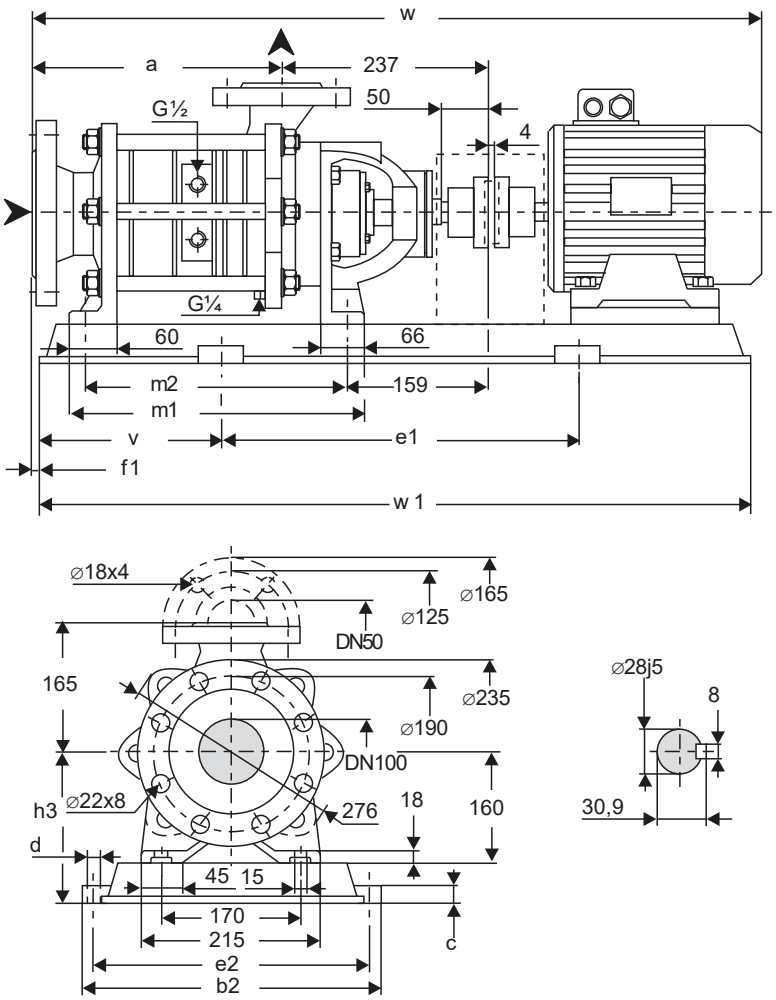
Pump size	Motor kW	Motor size	Base plate	Coupl.	Weight pump	Weight set	a	b2	c	d	e1	e2	v	f1	h3	m1	m2	w*	w1
4102/7	2.5	100L	P015	BDS88	53	112	378	361	25	15	600	325	160	-23	182	404	370	959	920
	3.6	112M				115												965	
4103/7	3.6	112M	P015	BDS88	59	121	433	361	25	15	600	325	160	-23	182	459	425	1020	920
	5	132S	P017	BDS103		158					700		200		192			1116	1100
4104/7	3.6	112M	P017	BDS88	65	130	488	361	25	15	700	325	200	-23	192	514	480	1075	1100
	5	132S		BDS103		164												1171	
4105/7	5	132S	P385	BDS103	70	172	543	490	30	24	740	440	200	-23	212	569	535	1226	1140
	6.8	132M				232												1237	
4106/7	6.8	132M	P436	BDS103	76	248	598	540	30	24	840	490	215	-23	212	624	590	1292	1270
	10	160M				278									240			1379	
4107/7	6.8	132M	P436	BDS103	82	230	653	540	30	24	840	490	215	-23	212	679	645	1347	1270
	10	160M	P487			296	653	610	35	28	940	550	240		260			1434	1420

1) A safety margin of 1 m has to be added when using a liquid containing gas.
* Dimensions depend upon the motor brand.

Dimension chart, Pump set drawing and Performance curves

CEHA 5100/7 (with retaining stage)





General: Values are valid for water ρ = 1 kg/dm³ and ν = 1 cSt.

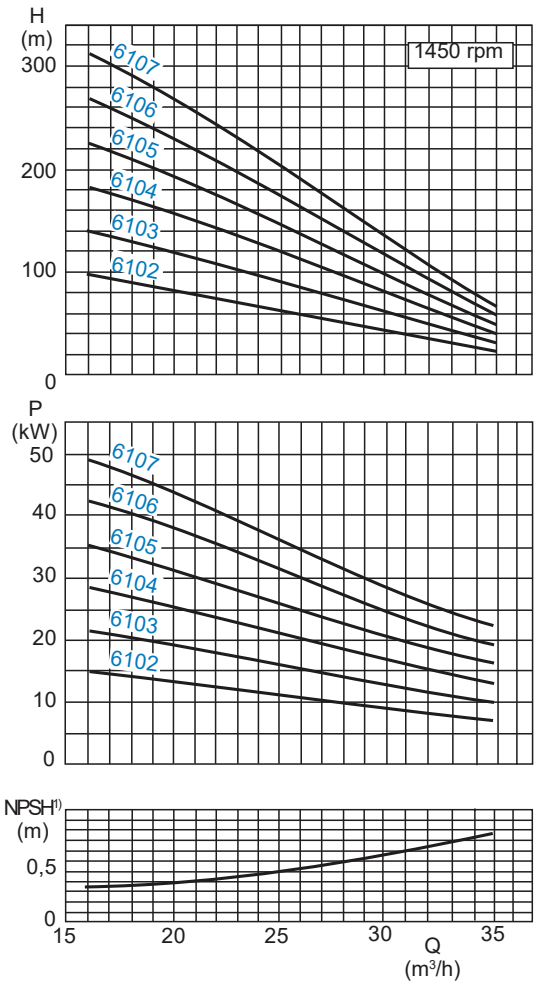
Design tolerances: Capacity ± 5% - Delivery head ± 5% - Power + 10%.
For designs with a mechanical seal or casing seal of soft Teflon, the tolerance for the delivery head is extended by 2% each.

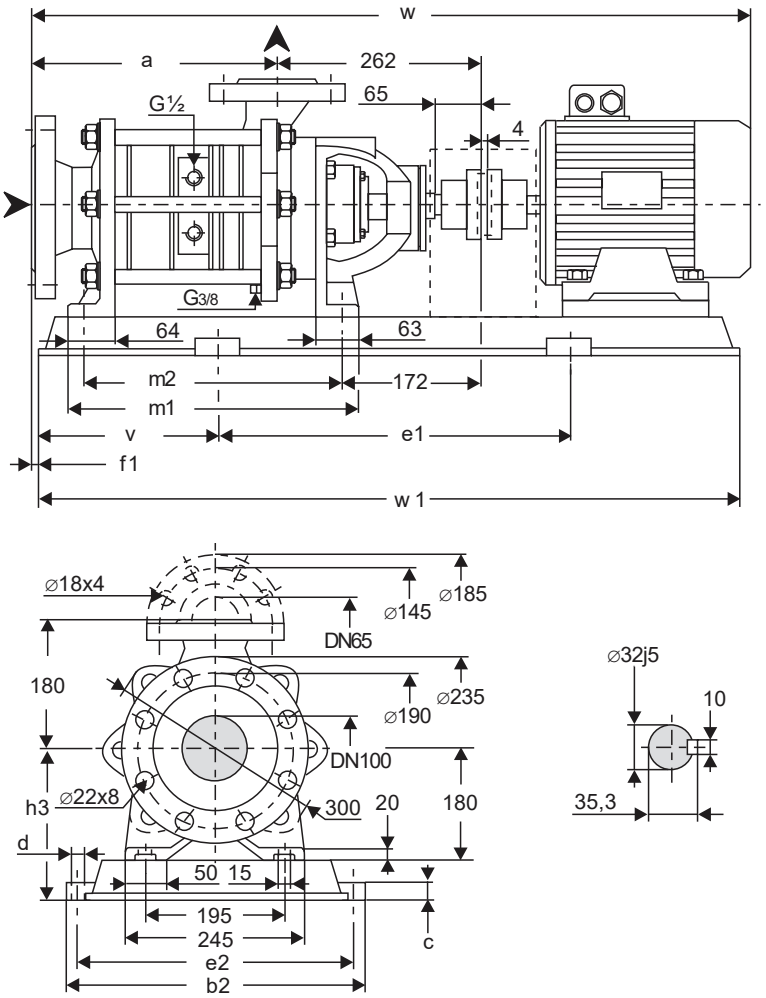
Pump size	Motor kW	Motor size	Base plate	Coupl.	Weight pump	Weight set	a	b2	c	d	e1	e2	v	f1	h3	m1	m2	w*	w1
5102/7	5	132S	P017	BDS103	80	180	455	361	25	15	700	325	200	-28	220	503	465	1180	1100
	6.8	132M				232												1191	
5103/7	6.8	132M	P385	BDS103	90	252	530	490	30	24	740	440	200	-28	240	578	540	1266	1140
	10	160M	P436			292		540			840	490	215					1353	1270
5104/7	10	160M	P487	BDS103	101	325	605	610	35	28	940	550	240	-28	260	653	615	1428	1420
	13.5	160L				347												1472	
5105/7	10	160M	P487	BDS103	111	335	680	610	35	28	940	550	240	-28	260	728	690	1503	1420
	13.5	160L		BDS118		357												1547	
	15	180M	P538			395		660			1060	600	280		280			1640	1620
5106/7	13.5	160L	P538	BDS118	121	408	755	660	35	28	1060	600	280	-28	260	803	765	1622	1620
	15	180M				429									280			1715	
5107/7	15	180M	P538	BDS118	132	440	830	660	35	28	1060	600	280	-28	280	878	840	1790	1620
	17.5	180L				463													

[1] A safety margin of 1 m has to be added when using a liquid containing gas.
* Dimensions depend upon the motor brand.

Dimension chart, Pump set drawing and Performance curves

CEHA 6100/7 (with retaining stage)





General: Values are valid for water ρ = 1 kg/dm³ and ν = 1 cSt.

Design tolerances: Capacity ± 5% - Delivery head ± 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	Coupl.	Weight pump	Weight set	a	b2	c	d	e1	e2	v	f1	h3	m1	m2	w*	w1
6102/7	6.8	132M	P385	BDS103	105	267	518	490	30	24	740	440	200	-35	260	571	533	1279	1140
	10	160M	P436			307		540			840	490	215					1366	1270
6103/7	10	160M	P487	BDS103	117	331	608	610	35	28	940	550	240	-35	280	661	623	1456	1420
	13.5	160L		BDS118		363												1500	
	15	180M				384												1593	
6104/7	15	180M	P538	BDS118	130	439	698	660	35	28	1060	600	280	-35	280	751	713	1683	1620
	17.5	180L				461													
	24	200L		BDS135		540									300			1738	
6105/7	15	180M	P538	BDS118	142	450	788	660	35	28	1060	600	280	-35	280	841	803	1773	1620
	17.5	180L				473													
	24	200L		BDS135		485									300			1828	
6106/7	17.5	180L	S389	BDS118	155	391	878	540	40	28	1200	490	300	-35	280	931	893	1863	1800
	24	200L		BDS135		470									300			1918	
	30	225S	S609	BDS152		620		730				670	310		325			2018	1820
6107/7	24	200L	S389	BDS135	167	482	968	540	40	28	1200	490	300	-35	300	1021	983	2008	1800
	30	225S	14211	BDS152		532		740	40	28	1300	609	350		345			2003	2000
	36	225M	14211			630												2080	

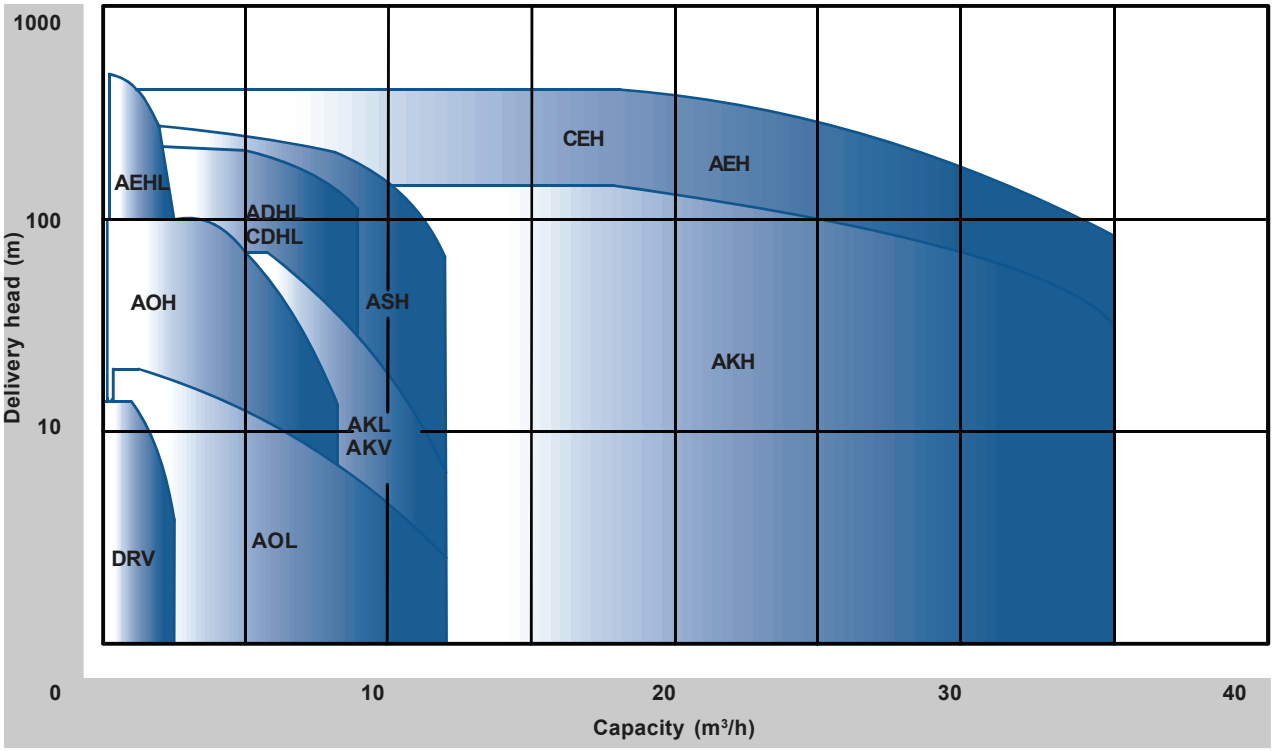
[1] A safety margin of 1 m has to be added when using a liquid containing gas.
* Dimensions depend upon the motor brand.

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.