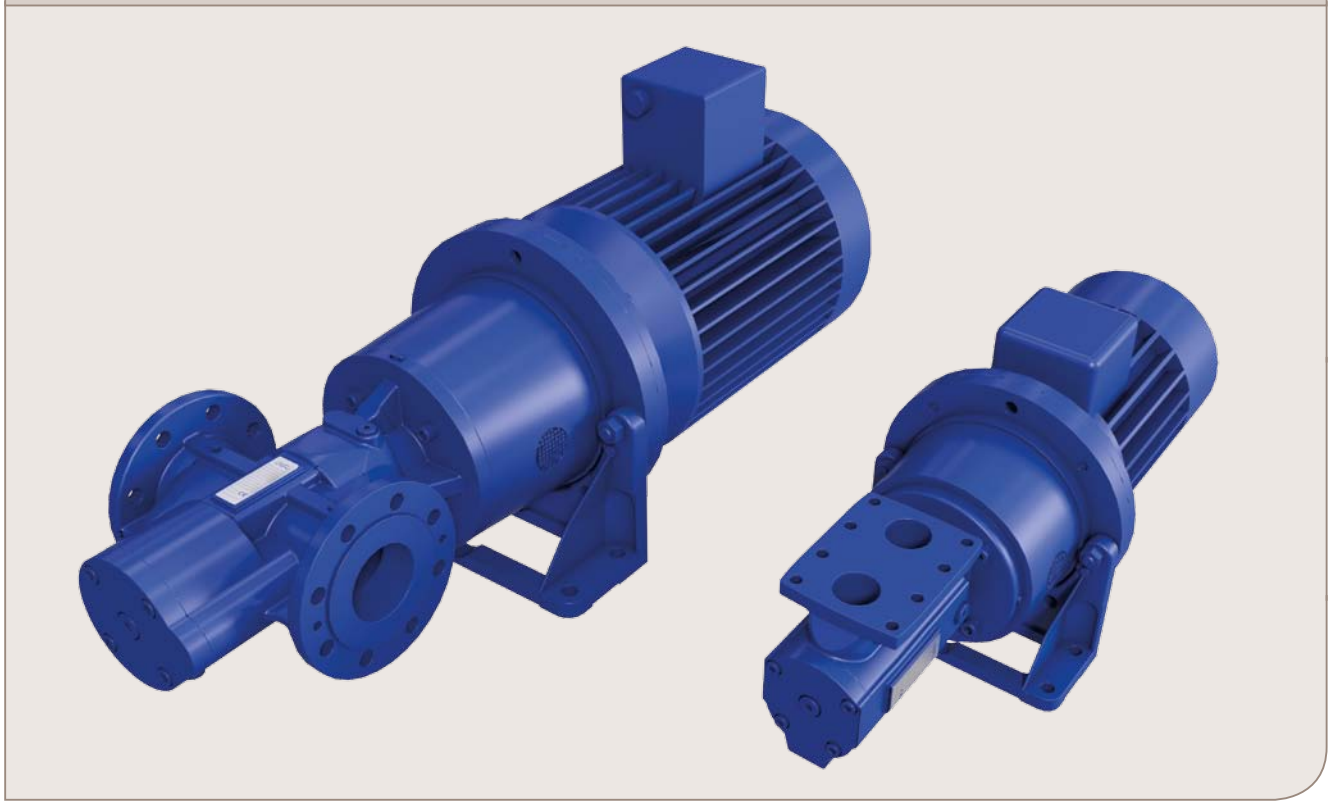
Alfa Laval three-screw pump

Alfa Laval ALP pump range



The compact and reliable Alfa Laval ALP three-screw pumps are characterised by strong design features ensuring low life cycle cost.

Applications
The ALP pump is optimised for mineral oil applications and developed with a specific focus on marine and industrial applications.

Typical marine and industrial low pressure applications are:

- Supply and circulation of fuel, ranging from gas oil to heavy fuel oils
- Transfer of fuel oil on board ships, in power stations and oil facilities
- Oil circulation in hydraulic systems
- Lubricating oil circulation for cooling and separation
- Circulation of lubricating oil for diesel engines, gear-boxes etc.

Benefits
Key benefits of the ALP pump design are:

- Minimized life cycle cost
- Low maintenance
- High quality
- Environmentally friendly
- High volumetric efficiency
- High energy efficiency

Design

ALP pumps are characterised by a compact design consisting of few components reducing complexity of the pump and easing the handling. Pump screws of hardened material enable tight internal tolerances ensuring stable pump capacity over time.

The shaft seal design optimizes the lubrication of the seal faces and improves air evacuation, while the seal chamber is built to efficiently prevent building up of residue. This combined with the use of a high quality ball bearing, positioned outside the product zone, reduces the risk of thermal impacts and avoids exposure to the pumped liquid. Thus, maintenance requirements are reduced to a minimum.

Technical data

Materials

Pump casing	Nodular graphite iron, EN-GJS-400
Screws	Nitration-hardened steel, 1,7139
Seal faces, mechanical seal	SiC/hard metal

Port connections

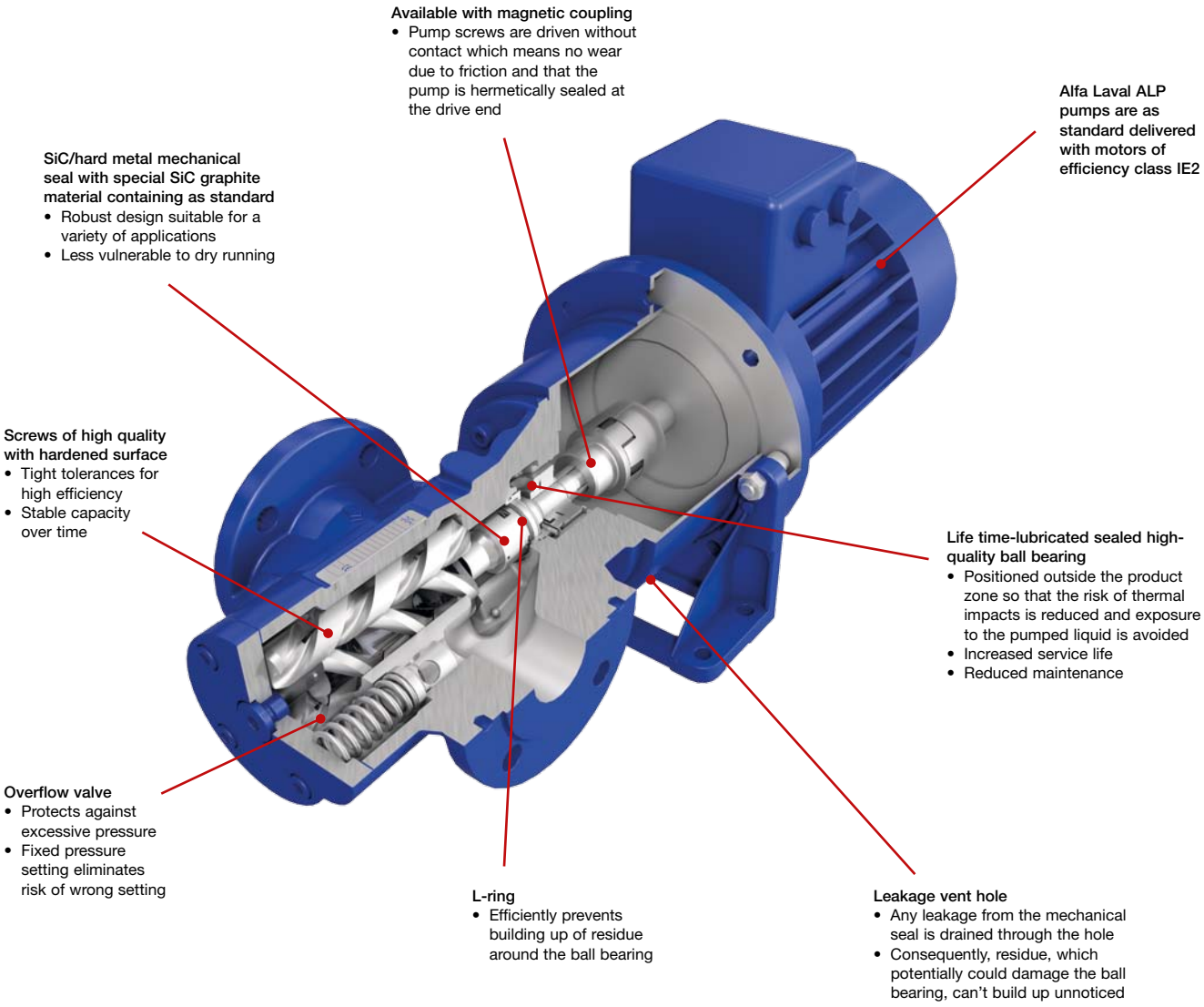
Flange SAE J 518/ISO 6162, PN16, at the top (ALP0015–0085) or in inline configuration (ALP0100–0280).

Motors

According to the IEC metric standard:

- 2 poles = 2,900/3,500 rpm at 50/60 Hz
- 4 poles = 1,450/1,750 rpm at 50/60 Hz
- 6 poles = 950/1,200 rpm at 50/60 Hz
- IP55, insulation class ICLF, efficiency class IE2

Design features



Operating data

Operating limits	
Max. inlet pressure	16 bar
Max. manometric suction head at pump inlet 4 mWG equates a max. negative inlet pressure of 0.4 bar	
Max. discharge pressure	16 bar
Max. differential pressure	
Valve setting = 6 bar	5.4 bar
Valve setting = 10 bar	9 bar
Valve setting pressures	
A	6 bar ± 10%
B	10 bar ± 10%
Temperature range	
Mechanical sealed pump	–10°C to +155°C
Magnetic coupled pumps	–10°C to +180°C
Viscosity	1.4–10,000 cSt
Max rotation speed [min –1]	
50 Hz	2,900
60 Hz	3,500

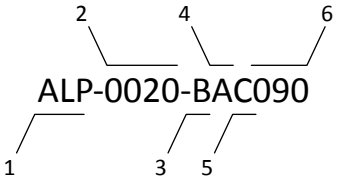
Pump testing

Every individual pump is performance tested before leaving the factory.

Certification

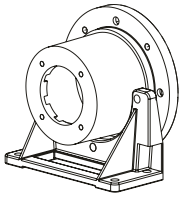
Upon request the Alfa Laval ALP pump may be certified according to the following class societies: ABS, BV, CCS, CR, DNV, GL, KR, LR, NK, PRS, RINA, RS.

Type code



1 Model
2 Size (nominal flow rate in l/min at 1,450 rpm in std. conditions)
3 Seal type (B: mechanical seal, D: magnetic coupling)
4 Safety valve setting (A: 6 bar, B: 10 bar)
5 Completion (A: Free shaft end, B: Flange mounted, C: Foot mounted, D: Flange mounted with motor, E: Foot mounted with motor)
6 IEC Frame size

Related products



Connecting frame



Change-over unit



Service kits



3S three-screw pumps

Capacity tables

50 Hz, Δp = 4 bar

		Mechanical driven pumps					Magnetic driven pumps				
		Q [l/hour] @ viscosity [mm²/s] /50°C									
Pump size	RPM	13	40	180	380	700	13	40	180	380	700
0015	2,800	1,625	1,693	1,747	1,762	1,771	1,578	1,644	1,710	1,710	1,716
	1,400	727	796	850	865	873	708	774	822	840	846
0020	2,800	2,138	2,228	2,299	2,319	2,330	2,076	2,160	2,232	2,250	2,262
	1,400	957	1,047	1,118	1,138	1,149	930	1,014	1,086	1,104	1,116
0030	2,800	3,456	3,561	3,644	3,667	3,680	3,354	3,456	3,534	3,558	3,570
	1,400	1,597	1,702	1,785	1,808	1,821	1,548	1,650	1,734	1,752	1,764
0040	2,800	4,606	4,746	4,856	4,887	4,905	4,470	4,602	4,710	4,740	4,758
	1,400	2,129	2,268	2,379	2,409	2,427	2,064	2,202	2,310	2,340	2,352
0055	2,800	6,326	6,505	6,647	6,687	6,710	6,138	6,312	6,450	6,486	6,510
	1,400	2,939	3,118	3,260	3,300	3,323	2,850	3,024	3,162	3,198	3,222
0075	2,800	8,184	8,394	8,561	8,607	8,634	7,938	8,142	8,304	8,346	8,376
	1,400	3,829	4,040	4,206	4,252	4,279	3,690	3,918	4,080	4,122	4,152
0085	2,800	9,135	9,352	9,524	9,571	9,599	8,862	9,072	9,240	9,282	9,312
	1,400	4,296	4,514	4,685	4,733	4,761	4,170	4,380	4,542	4,590	4,620
0100	2,800	10,795	11,132	11,398	11,472	11,515	10,470	10,800	11,058	11,130	11,172
	1,400	4,978	5,314	5,580	5,654	5,697	4,830	5,154	5,412	5,484	5,526
0115	2,800	13,045	13,339	13,571	13,636	13,673	12,654	12,936	13,164	13,224	13,260
	1,400	6,156	6,450	6,682	6,746	6,784	5,970	6,258	6,480	6,546	6,582
0165	2,800	18,214	18,613	18,930	19,014	19,068	17,670	18,054	18,360	18,444	18,498
	1,400	8,609	9,008	9,324	9,411	9,462	8,352	8,736	9,042	9,132	9,180
0215	2,800	24,000	24,462	24,828	24,930	25,002	23,304	23,742	24,090	24,186	24,246
	1,400	11,422	11,885	12,251	12,353	12,412	11,100	11,544	11,892	11,988	12,042
0230	2,800	26,071	26,530	26,892	26,994	27,054	25,290	25,734	26,088	26,184	26,238
	1,400	12,463	12,922	13,285	13,385	13,444	12,090	12,534	12,888	12,984	13,038
0280	2,800	31,285	31,836	32,274	32,394	32,460	30,348	30,882	31,302	31,362	31,488
	1,400	14,956	15,507	15,942	16,063	16,188	14,508	15,186	15,462	15,582	15,648

60 Hz, Δp = 4 bar

		Mechanical driven pumps					Magnetic driven pumps				
		Q [l/hour] @ viscosity [mm²/s] /50°C									
Pump size	RPM	13	40	180	380	700	13	40	180	380	700
0015	3,400	2,010	2,078	2,132	2,147	2,156	1,950	2,016	2,070	2,082	2,094
	1,700	920	988	1,042	1,057	1,066	894	960	1,008	1,026	1,032
0020	3,400	2,645	2,735	2,805	2,825	2,837	2,568	2,652	2,724	2,742	2,754
	1,700	1,210	1,300	1,371	1,391	1,402	1,176	1,260	1,332	1,350	1,362
0030	3,400	4,253	4,358	4,441	4,464	4,477	4,128	4,230	4,308	4,332	4,344
	1,700	1,996	2,101	2,183	2,206	2,220	1,938	2,040	2,118	2,142	2,154
0040	3,400	5,668	5,807	5,918	5,948	5,966	5,496	5,634	5,742	5,772	5,790
	1,700	2,659	2,799	2,910	2,940	2,958	2,580	2,718	2,820	2,850	2,868
0055	3,400	7,777	7,957	8,099	8,138	8,161	7,542	7,716	7,854	7,896	7,914
	1,700	3,665	3,844	3,986	4,026	4,048	3,552	3,726	3,864	3,906	3,930
0075	3,400	10,050	10,261	10,427	10,473	10,500	9,750	9,954	10,116	10,158	10,188
	1,700	4,762	4,973	5,139	5,186	5,212	4,620	4,824	4,986	5,028	5,058
0085	3,400	11,208	11,426	11,597	11,645	11,673	10,872	11,082	11,250	11,298	11,322
	1,700	5,333	5,550	5,722	5,770	5,798	5,172	5,382	5,550	5,598	5,622
0100	3,400	13,288	13,625	13,891	13,965	14,034	12,888	13,218	13,476	13,548	13,590
	1,700	6,224	6,561	6,827	6,901	6,944	6,036	6,366	6,624	6,696	6,738
0115	3,400	15,997	16,291	16,523	16,590	16,626	15,516	15,804	16,026	16,092	16,128
	1,700	7,632	7,926	8,158	8,223	8,260	7,404	7,686	7,914	7,974	8,010
0165	3,400	22,331	22,730	23,046	23,130	23,184	21,660	22,050	22,356	22,440	22,488
	1,700	10,667	11,067	11,382	11,470	11,521	10,350	10,734	11,040	11,124	11,172
0215	3,400	29,390	29,856	30,222	30,324	30,378	28,530	28,974	29,322	29,418	29,472
	1,700	14,117	14,580	14,947	15,048	15,108	13,716	14,154	14,502	14,604	14,658
0230	3,400	31,903	32,362	32,724	32,826	32,886	30,948	31,392	31,740	31,842	31,896
	1,700	15,379	15,838	16,201	16,301	16,360	14,916	15,360	15,714	15,810	15,870
0280	3,400	38,284	38,835	39,270	39,390	39,462	37,134	37,668	38,094	38,208	38,280
	1,700	18,455	19,006	19,441	19,562	19,680	17,904	18,438	18,858	18,972	19,050

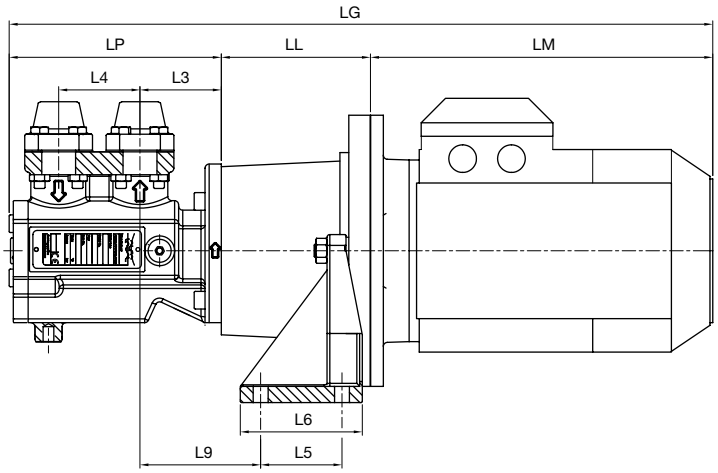
Dimensions

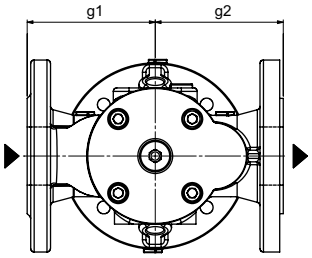
		Mechanical driven pumps							Magnetic driven pumps						
		[mm]													
Pump size	Motor size	LG	L5	L5.1	L4	g1/g2	LP	LL	LG	L5	L5.1	L4	g1/g2	LP	LL
0015 0020	80	*	60	–	60	–	157	110	*	60	–	60	–	157	139
	90	*	60	–	60	–	157	118	*	60	–	60	–	157	139
	100/112	*	–	185	60	–	157	128	*	60	–	60	–	157	150
0030 0040	80	*	60	–	75	–	208	110	*	60	–	75	–	209	139
	90	*	60	–	75	–	208	118	*	60	–	75	–	209	139
	100/112	*	–	185	75	–	208	128	*	60	–	75	–	209	150
0055	90	*	60	–	85	–	226	118	*	60	–	85	–	226	140
0075	100/112	*	–	185	85	–	226	128	*	60	–	85	–	226	148
0085	132	*	–	225	85	–	226	150	*	80	–	85	–	226	168
0100 0115	90	*	60	–	–	110	273	124	*	60	–	–	110	272.5	140
	110/112	*	60	–	–	110	273	135	*	60	–	–	110	272.5	148
	132	*	80	–	–	110	273	155	*	80	–	–	110	272.5	196
0165 0215	100/112	*	60	–	–	122.5	334	135	*	60	–	–	122.5	333.5	175
	132	*	80	–	–	122.5	334	168	*	80	–	–	122.5	333.5	210
	160	*	110	–	–	122.5	334	204	*	110	–	–	122.5	333.5	256
0230 0280	100/112	*	60	–	–	140	364	148	–	–	–	–	–	–	–
	132	*	80	–	–	140	364	196	*	110	–	–	140	363.5	210
	160	*	110	–	–	140	364	204	*	110	–	–	140	363.5	228**
	180	*	110	–	–	140	364	228	*	110	–	–	140	363.5	228

* Depends on specific motor model.

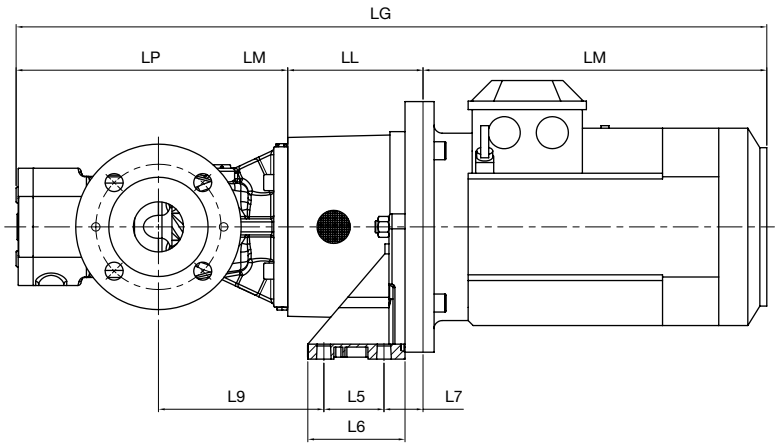
** 256 mm for ALP 0230 and 228 mm for ALP 0280.

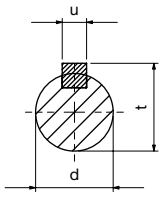
Pump type ALP 0015–0085





Pump type ALP 0100–0440





Pump shaft			
[mm]			
Pump type	d	t	u
ALP 0015–0040	14	16	5
ALP 0055–0115	19	21.5	6
ALP 0165–0215	19	31	8
ALP 0230–0280	28	31	8

www.fotoskrift.se

CentriLock, CentriShoot and REMIND are trademarks owned by Alfa Laval Corporate AB. ALFA LAVAL is a trademark registered and owned by Alfa Laval Corporate AB.

EMD00457EN 1304

Alfa Laval reserves the right to change specifications without prior notification.

How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com