

CombiLine

In-Line circulation pumps



Reliable temperature control in the greenhouse is crucial for the optimal running of your process. The performance of your circulation pumps is of paramount importance to this process. Therefore your business relies on your circulation pumps.

So make the right choice: choose CombiLine.

CombiLine

Build-in in-line circulation pump

The CombiLine in-line circulation pump offers optimal efficiency and the highest reliability. In combination with its extensive hydraulic field, this makes it by far the most suitable pump for both heating and cooling systems.

The CombiLine is a build-in in-line circulation pump with IEC flange motor. The impeller is mounted directly onto the extended shaft of the electric motor. A shaft sleeve construction protects the motor shaft from contact with the pumped liquid.

The pump is fitted with a rubber bellows mechanical seal, according to EN 12756 (DIN 24960).

The CombiLine's specially designed suction bend, the improved impeller design and the ample hydraulic application range guarantee an excellent hydraulic performance.

Based in Charlotte, North Carolina, SPX FLOW (NYSE: FLOW) is a multi-industry manufacturing company with operations in more than 35 markets worldwide. SPX FLOW's innovative, world-class products and highly-engineered solutions are helping to meet the needs of a constantly developing world and growing global population. You'll find our innovative solutions in everything from dairy plants and power plants to oil and gas pipelines, and the power grid. SPX FLOW is really everywhere you look.

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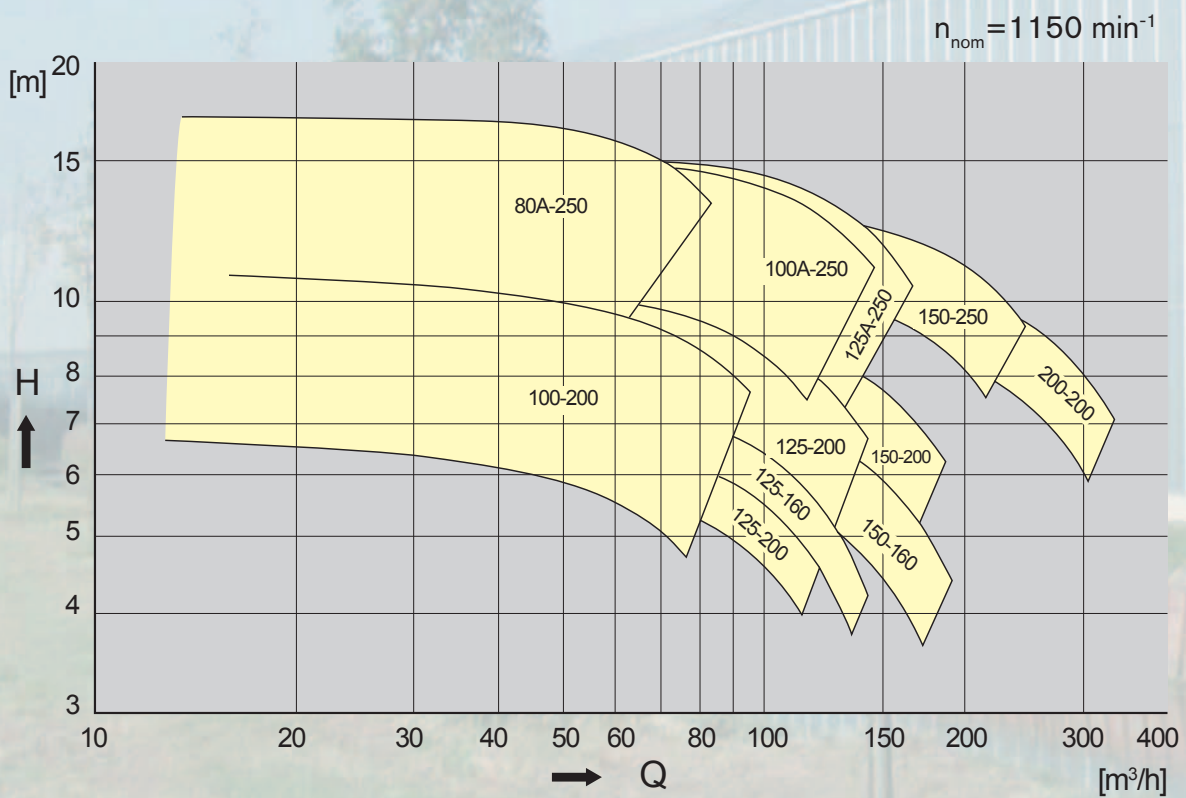
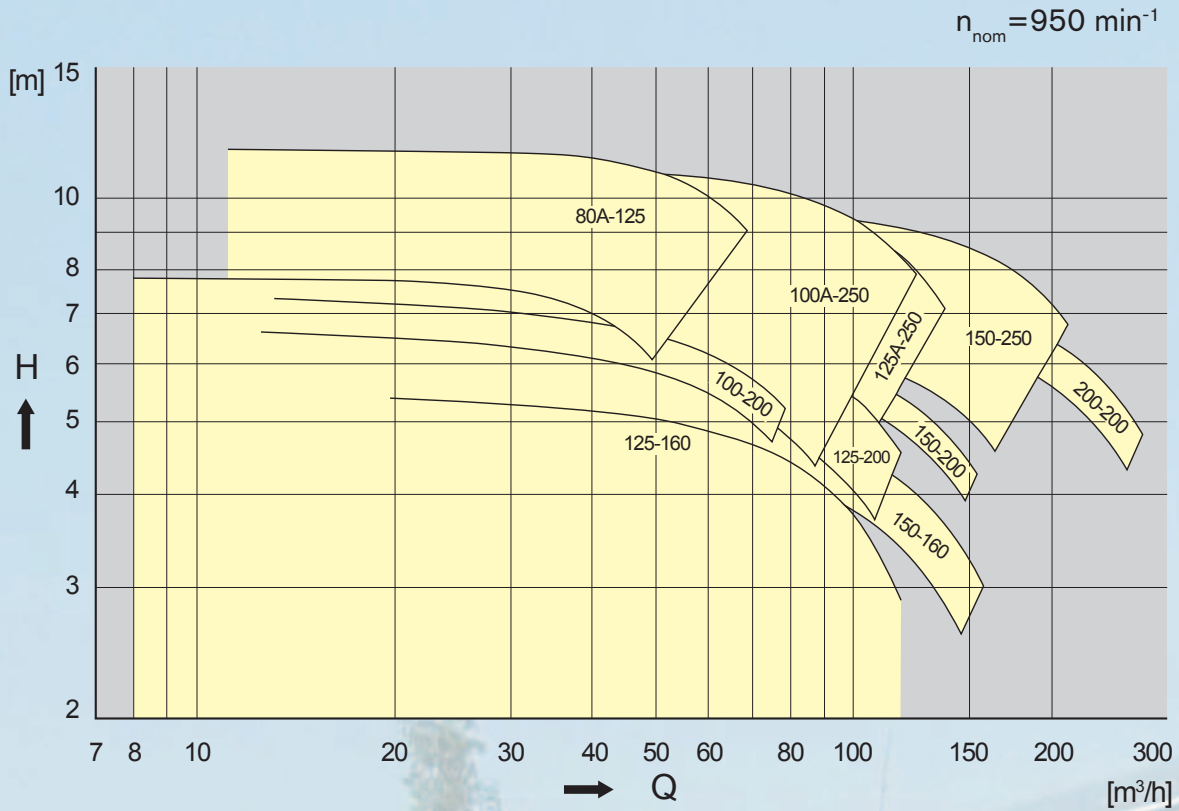


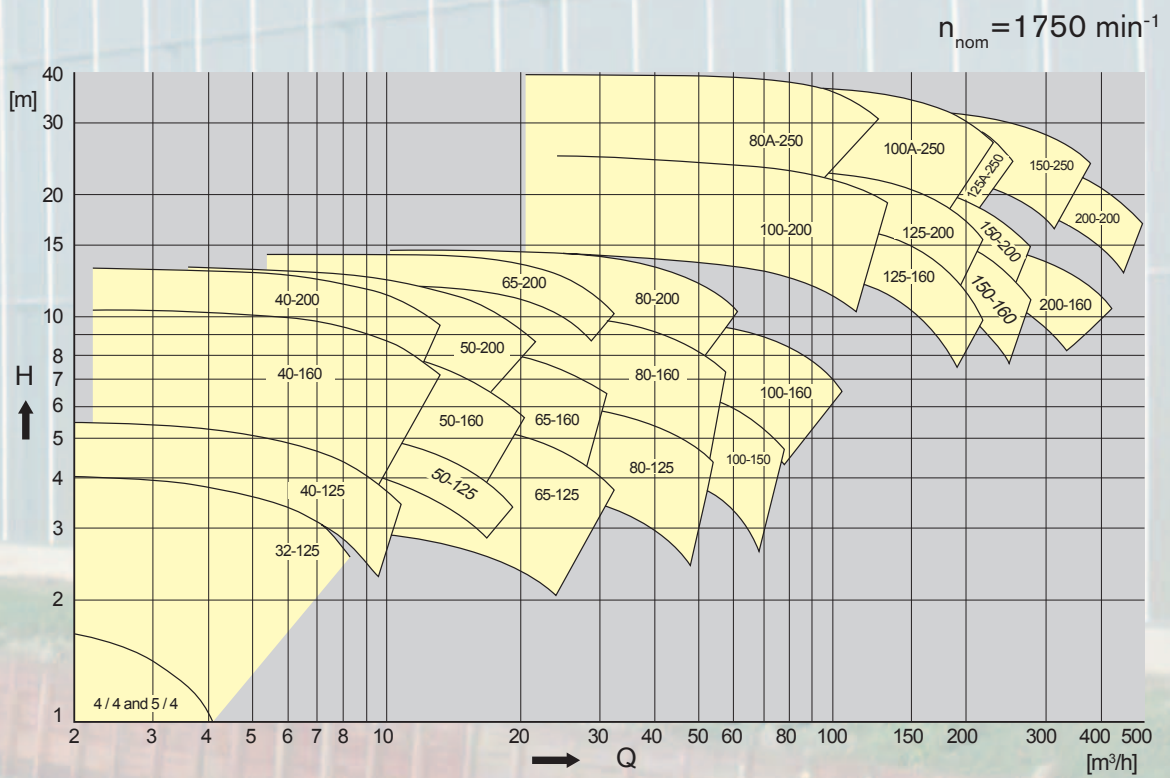
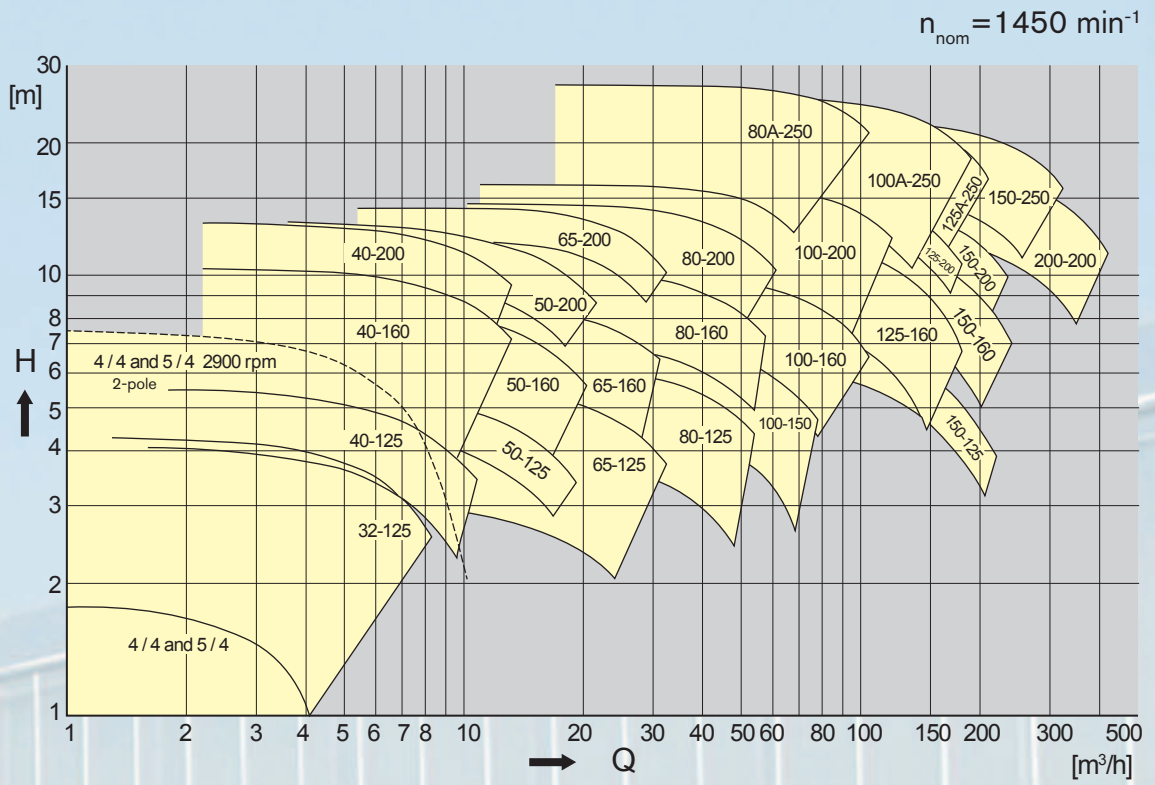
Maximum capacity	500 m ³ /h	
Maximum delivery head	35 m	
Maximum temperature	140 °C	
Maximum working pressure	6 bar (ND 6)	
	10 bar (ND 10)	
Nominal motor speed	1450 rpm	(50 Hz, 4-pole)
	1750 rpm	(60 Hz, 4 pole)
2-speed motor	1450/950 rpm	(50 Hz, 4-pole/6-pole)
Dahlander connection	1750/1150 rpm	(60 Hz, 4-pole/6-pole)
	<i>Also available with frequency control</i>	
Electric motor protection class	IP 55	
Electric motor voltage	230/400 V (≤ 1,5 kW)	at 50 Hz
	400/695 V (≥ 2,2 kW)	
	277/480 V (≤ 1,5 kW)	at 60 Hz
	480/830 V (≥ 2,2 kW)	
	<i>Other voltages/speeds on request</i>	



Pump curves

All the curves shown here, unless stated otherwise, are based upon standard speeds for 4-pole electric motors at 50 Hz and refer to water with a temperature of 20 °C.



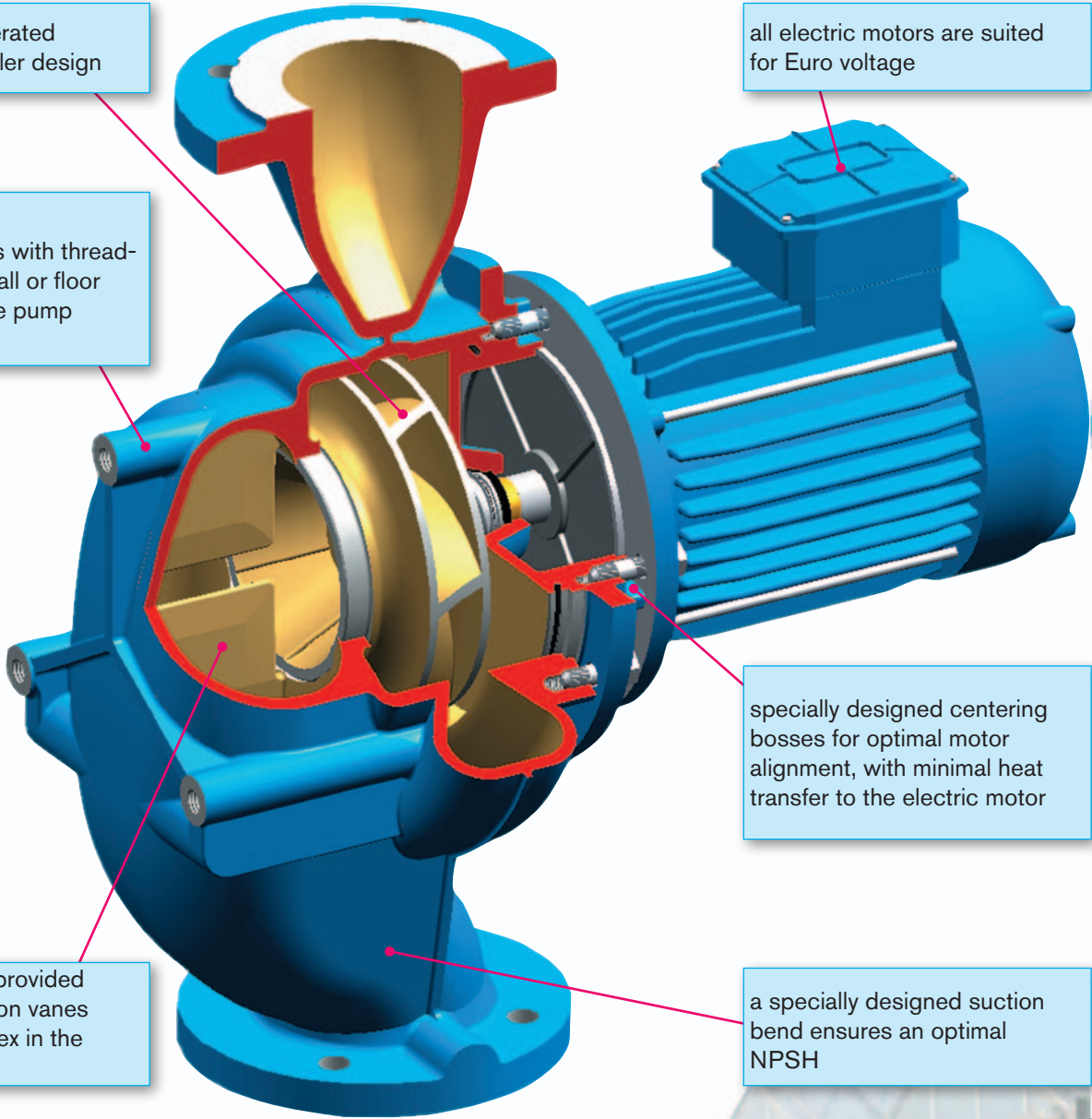


Technical specifications

computer generated hydraulic impeller design

cast-on bosses with threaded holes, for wall or floor mounting of the pump

all electric motors are suited for Euro voltage



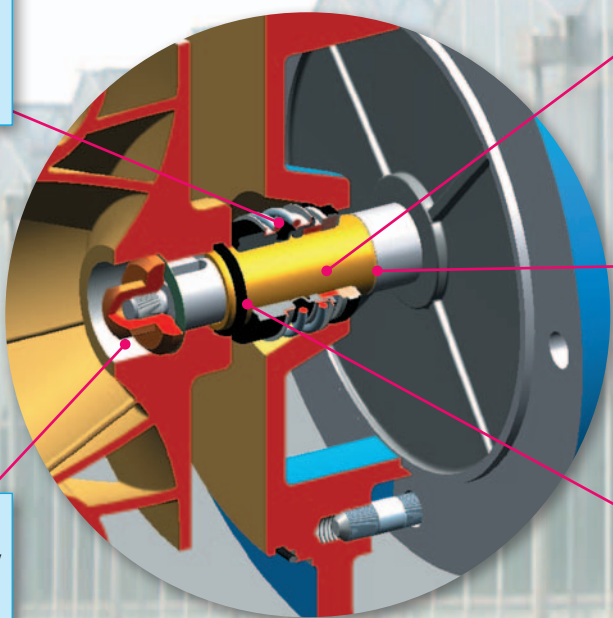
specially designed centering bosses for optimal motor alignment, with minimal heat transfer to the electric motor

pump entry is provided with anti-rotation vanes to prevent vortex in the impeller inlet

a specially designed suction bend ensures an optimal NPSH

all pumps are equipped with a mechanical seal with bellows, according to EN 12756 (DIN 24960)

'dry shaft' by application of a shaft sleeve

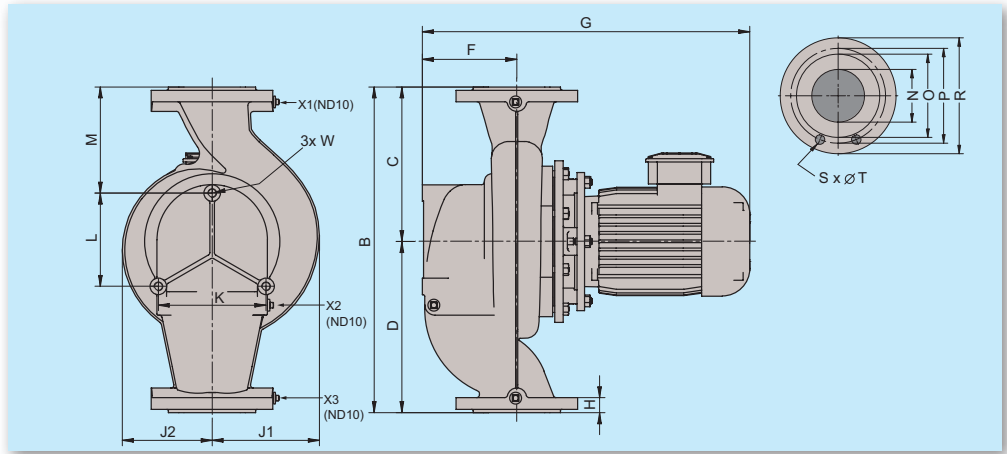


shaft sleeve protruding the pump cover

capped impeller nut with gasket ensures a completely dry motor shaft

shaft sleeve sealed into the impeller hub by means of an O-ring

Dimensions



External thread connection

Pump type	Thread	B	C	D	F	H	J1	J2
CL 4/4	G 1 1/2"	180	90	90	31.5	9	69	62
CL 5/4	G 2"	180	90	90	31.5	9	69	62

ND6						
N	O	P	R	S*T	W	
32	78	90	140	4*14	M16	
40	80	100	130	4*14	M16	
50	90	110	140	4*14	M16	
65	110	130	160	4*14	M16	
80	128	150	190	4*18	M16	
100	148	170	210	4*18	M16	

Flanges ND6 & ND10 according to EN 1092-2 PN6/PN10 (DIN 2531 / 2532 / ≈ ISO 7005 PN6/PN10)

Pump type	B	C	D	F	H	J1	J2	K	L	M
CL 32-125	250	125	125	74	19	96	85	70	79	80
CL 40-125	250	125	125	79	18 (20 ND10)	96	85	92	85	75.5
CL 40-160	320	160	160	77	18 (20 ND10)	115	115	91	72.5	118.5
CL 40-200	360	180	180	76.5	18 (20 ND10)	141	141	93.5	105	124
CL 50-125	280	140	140	86	18 (22 ND10)	108	89	105	76.5	99
CL 50-160	340	170	170	87.5	18.5 (22.5 ND10)	120	115	107.5	85	127.5
CL 50-200	380	190	190	85.5	18.5 (22.5 ND10)	141	141	107	108.5	138.5
CL 65-125	340	170	170	115	18 (22 ND10)	120	100	127.5	101	121
CL 65-160	340	170	170	106.5	18 (22 ND10)	135	115	124	88.5	128.5
CL 80-125	360	180	180	130	20 (24 ND10)	143	109	143	124	118.5
CL 80-160	400	200	200	131	20.5 (24.5 ND10)	147	123	146.5	127	136.5
CL 100-150	560	280	280	148	18	194	145	105.5	116	239
CL 100-160 (ND6 only)	560	260	300	187.5	21 (27 ND10)	189	150	184.5	170	172.5
CL 100-200	590	280	310	171	27	195	163	195	169	192.5

ND10									
N	O	P	R	S*T	W	X1	X2	X3	
32	78	100	140	4*18	M16	G 3/4	G 3/4	G 3/4	
40	88	110	150	4*18	M16	G 3/4	G 3/4	G 3/4	
50	102	125	165	4*18	M16	G 3/4	G 3/4	G 3/4	
65-125								G 3/4	
65-160	122	145	185	4*18	M16	G 3/4	G 3/4	G 3/4	
65-200								G 3/4	
80	138	160	200	8*18	M16	G 3/4	G 3/4	G 3/4	
100	158	180	220	8*18	M16	G 3/4	G 3/4	G 3/4	
125	188	210	250	8*18	M16	G 3/4	G 3/4	G 3/4	
150-125									
150-160					M16	G 3/4	G 3/4	G 3/4	
150-200	212	240	285	8*18					
150-250					M20	G 3/4	G 3/4	G 3/4	
200	268	295	340	8*22	M20	G 3/4	G 3/4	G 3/4	

Flanges ND10 according to EN 1092-2 PN10 (DIN 2532 / ≈ ISO 7005 PN10)

Pump type	B	C	D	F	H	J1	J2	K	L	M
CL 65-200*	440	220	220	132.5	21	151	141	133.5	102.5	169.5
CL 80-200*	530	265	265	113	22	170	143	151	139	192
CL 80A-250	590	280	310	214.5	27	200	176	195	169	175
CL 100A-250	730	355	375	224.5	28.5	237	202	225	195	241
CL 125-160*	750	375	375	247	26	223	178	225	195	280
CL 125-200	750	375	375	247	26	223	178	225	195	280
CL 125A-250	805	355	450	282.5	28.5	261	216	310	254	212
CL 150-125	850	400	450	287	28.5	294	218	320	257.5	255
CL 150-160	750	315	435	287	28.5	257	200	310	230	175
CL 150-200	720	315	405	245	24.5	245	198	258	198.5	214
CL 150-250	850	400	450	283	28.5	279	227	320	257.5	255
CL 200-200	900	400	500	337	26.5	297	237	298	230.5	280

* Cam rotated 90° on flange

Motor IEC	63	71	80	90S	90L	100L	112M	132S	132M	132M***	160L	160L****
CL	G											
4/4	300	300										
5/4	300	300										
32-125	369											
40-125	377	399										
40-160		396	420									
40-200			420									
50-125		406										
50-160		410	434									
50-200			432	452								
65-125		437	461									
65-160			453	473								
65-200**				489	514							
80-125			481	501								
80-160				512	537	568						
80-200**					498	529						
80A-250**						632	651	733	771	788	905	931
100-150*			504	528	549							
100-160					585	616						
100-200						593	612	684	722			
100A-250**						646	665	747	785	802	919	945
125-160**						675	694	768	806			
125-200**						675	694	768	806	823		
125A-250**							723		843	860	977	1003
150-125**						724	743		850	867	984	1010
150-160**						717	736	818	856	873		
150-200**							693	775	813	830		
150-250**							730		850	867	984	1010
200-200**									909	926	1043	1069

* only ND6 ** only ND10 *** 4 poles 9.2 and 11 kW / 6 poles 7.5 kW **** 4 poles 18.5 and 22 kW



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