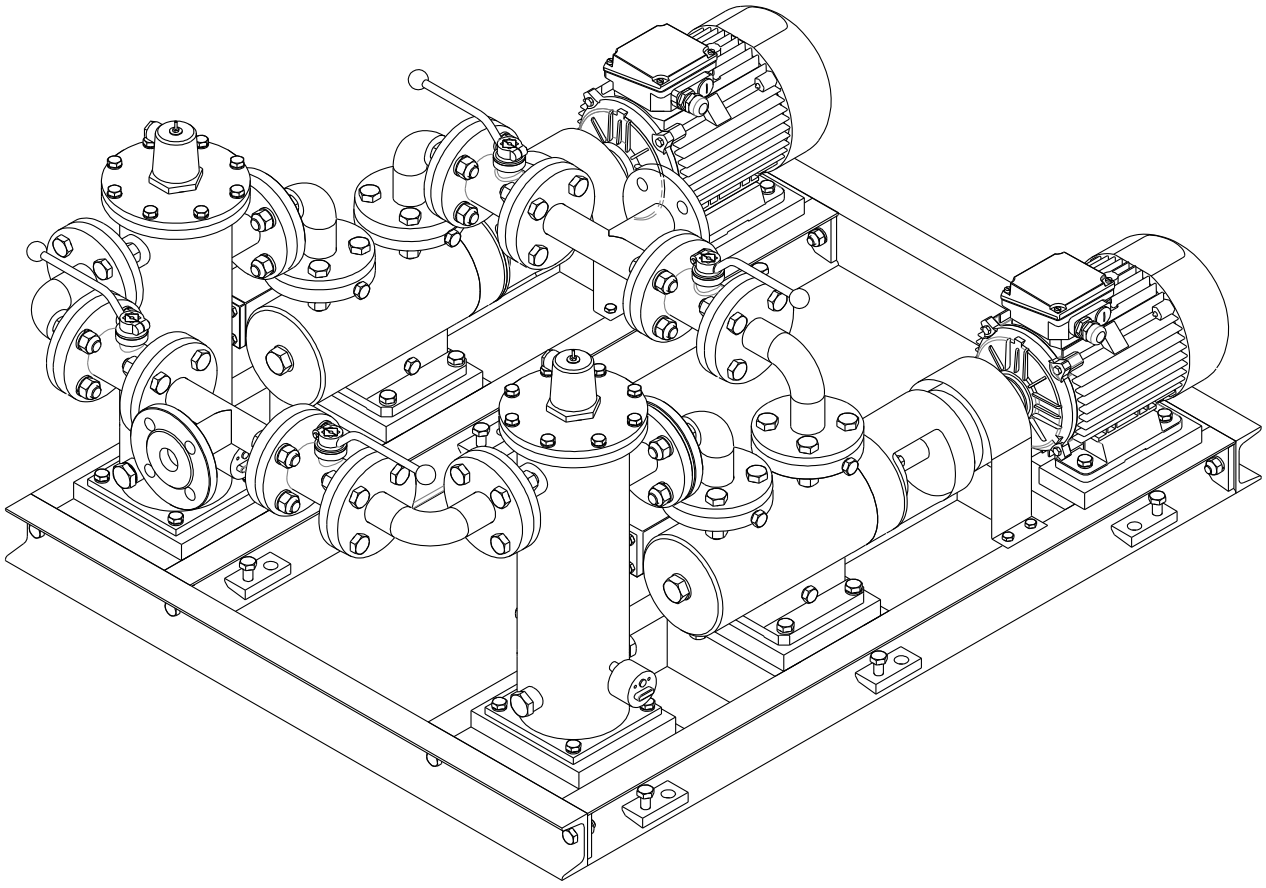
MZT PUMPI

Systems of three-screw pumps with filters and valves series SVPF-A

Technical catalog



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1. GENERAL INFORMATION

1.1. Introduction

SVPF-A systems are packages of one duty and one stand by line. Each line consist a horizontal screw pump type KHVP-A, a filter type FZK, a valve at inlet side and a valve at discharge side. Very easy is to close or open the lines, or dismantling of equipment.

Three screw pumps belong into the group of volumetric types of pumps. Main working elements of the pump are three screw (helical) spindles (with special profile) and a sleeve (casing). The screw spindle can be compared with gear that have big screw length of his teeth or with piston pump who have indefinite number of pistons.

As the screw rotate, the fluid continuously moves in an axial direction from the suction to the discharge side. Fluid is moving axially without turbulence and mixing which enables pumping of a lot of viscous fluids without making foam.

Working volume remains constant and moves from suction to the discharge chamber, with what continuous flow can be accomplished. This results in smooth, pulsation free flow with extremely low noise and vibration levels which is impossible to be achieved by any other design of positive displacement pumps.

1.2. Application

SVPF-A systems of screw pumps are used for transport of viscous fluids with lubricating properties, without abrasive substances and chemically not aggressive for pump materials, such as: lube oils, fuel oils, synthetic, mineral and vegetable oils, etc. The viscosity range of fluids that can be transported with three screw pumps varies from 2 to 100^0E (11.8-760 cSt).

These types of pumps are suitable for application in the field of petrochemical industry, food industry, marine and offshore applications such as fuel-injection, oil burners, boosting, hydraulics, lubrication, circulating, transfer etc.

Typical applications are: lubrication of machines, motors, turbines; supply and circulation of fuel oil for diesel engines, burners, transfer, loading and unloading of lubrication oil, fuel oil etc.

Capacity:	up to 100 [m^3/h]
Differential pressure:	up to 60 [bar]
Inlet pressure	up to 10 [bar]
Viscosity range:	12-760 [cSt]
Temperature range:	up to 150 [^{0}C]

1.3. Product type design

Package SVPF-A consist following elements:

- KHVP-A type of pump - three screw type of pump where following design solutions are applied:
  - Horizontal design
  - Steel welded pump casing
  - External life-time grease filled bearing
  - Equipped with heating chamber
  - Single mechanical seal
  - Equipped with safety valve
  - A balance piston integrally machined on driving screw reduces the axial thrust.
- FZK filters - type of filters where following design solutions are applied:
  - Vertical design
  - Steel welded filter casing
  - Equipped with heating chamber for steam or hot oil heating
  - Electrical Heater
  - Thermostat
- Valves:
  - Ball type
  - Flange connections
  - Suction side pressure rating PN16
  - Discharge side pressure rating PN16 / PN25 / PN40 - according customer request

1.4. Product type key (Designation)

Example: **SVPF - A - 3 - 2M - 1450 - 3**

- SVPF — Type series
- A — Design cod
- 3 — Pump size
- 2M — Pump screw pitch
- 1450 — Speed [rpm]
- 3 — Motor power [kW]

2. PUMPS TECHNICAL DETAILS

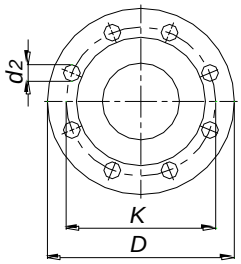
2.1. Materials

	Pump Part	Material	Designation
1	Pump casing	Steel	1.0038
2	Pump insert	Cast Iron / Bronze	EN-GJL-250 / G-SnBz12
3	Casing cover	Steel	1.0038
4	Screw set	Steel	1.0503
6	Seal cover	Steel	1.0038
7	Console	Steel	1.0038
8	Heating chamber	Steel	1.0038

2.2. Flange connections

Suction flanges are in accordance with EN 1092-1 PN16

Pump size	Suction Flange Nominal Diameter DN	Outside Diameter D	Bolt circle K	Bolt Number n	Bolt Holes d_2
3	32	140	100	4	18
5	40	150	110	4	18
10	65	185	145	4	18
15	80	200	160	8	18
20	100	220	180	8	18
45	125	250	210	8	18
50	125	250	210	8	18
100	150	285	240	8	22



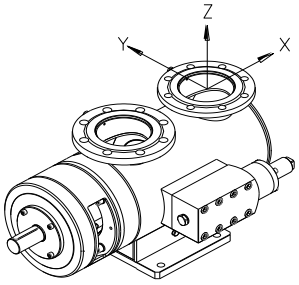
Discharge flanges are in accordance with EN 1092-1 PN40

Pump size	Suction Flange Nominal Diameter DN	Outside Diameter D	Bolt circle K	Bolt Number n	Bolt Holes d_2
3	32	140	100	4	18
5	40	150	110	4	18
10	65	185	145	8	18
15	80	200	160	8	18
20	100	235	190	8	22
45	125	270	220	8	26
50	125	270	220	8	26
100	150	300	250	8	26

Note: Different flange connections can be provided on request.

2.3. Permissible flange forces and moments

Pump size	Nominal Diameter DN	Force-F XYZ [N]	Torque-M XYZ [Nm]
3	32	400	210
5	40	500	260
10	65	800	430
15	80	1000	500
20	100	1300	690
45	125	1600	860
50	125	1600	860
100	150	2000	1000



2.4. Bearings

External, sealed with life-time grease filling, angular contact double row bearing is applied for KHVP-A series.

Pump size	Bearing type	Shaft diameter [mm]	Bearing outside diameter [mm]	Bearing width [mm]
3	3304 A-2RS1	20	52	22.2
5	3304 A-2RS1	20	52	22.2
10	3306 E-2RS1	30	72	30.2
15	3308 E-2RS1	40	90	36.5
20	3308 E-2RS1	40	90	36.5
45	3209 E-2RS1	45	85	30.2
50	3209 E-2RS1	45	85	30.2
100	3311 A-2RS1	55	120	49.2

2.5. Shaft sealing

Shaft sealing for pumps series KHVP-A is with single mechanical seal, unbalanced type.
As a standard version, Burgmann M32N is applied.

Pump size	Mechanical seal	Shaft diameter	Direction of rotation*	Material code DIN 12756	Stationary ring
3	M32N	28	R	BSVGG	G9
5	M32N	28	R	BSVGG	G9
10	M32N	38	R	BSVGG	G9
15	M32N	45	R	BSVGG	G9
20	M32N	45	R	BSVGG	G9
45	M32N	50	R	BSVGG	G9
50	M32N	50	R	BSVGG	G9
100	M32N	65	R	BSVGG	G9

Direction of rotation is viewed from motor side

Note: Different shaft sealing can be provided on request.

2.6. Heating chamber

Heating chamber is under pump casing. Inlet and outlet connections for the heating liquid are threated R ¼ “.

2.7. Safety valve

Pumps are equipped with an over pressure relief valve. This safety valve has function to protect the pump and pipeline with all instruments and devices, from over pressure. Activation pressure for this safety valve can be regulated depend form customer requirements. In case when the pump is ordered without this safety valve, than overload protection should be provided at the installation.

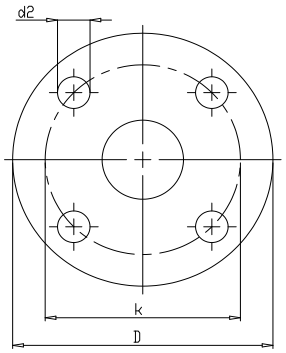
3. FILTERS TECHNICAL DETAILS

3.1. Range of application

- Pressure up to 16 [bar]
- Temperature up to 130 [^{o}C] for electrical heating
- Temperature up to 330 [^{o}C] for hot oil heating
- Flow velocity through flanges up to 3.5 [m/s]

3.2. Materials

	Filter Part	Material
1	Filter casing	Carbon Steel
2	Filter cartridge	Perforated Steel plate

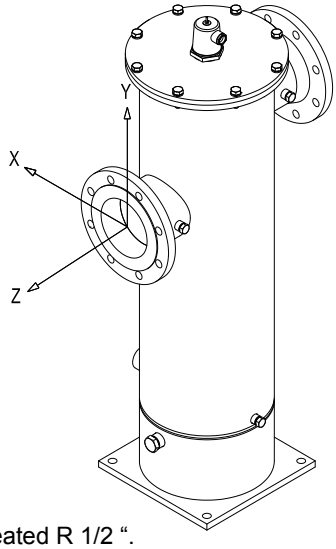


3.3. Flange connections

Suction and Discharge flanges are in accordance with EN 1092-1 PN16

Filter size	Suction/Discharge Flange Nominal Diameter DN	Outside Diameter D	Bolt circle K	Bolt Number n	Bolt Holes d_2
32	32	140	100	4	18
40	40	150	110	4	18
65	65	185	145	8	18
80	80	200	160	8	18
100	100	220	180	8	18
125	125	250	210	8	18
150	150	285	240	8	22

**Note: Different flange connections than presented can be provided on request.*



3.4. Permissible flange forces and moments

Filter size Nominal Diameter (DN)	Force-F XYZ [N]	Torque-M XYZ [Nm]
32	400	210
40	500	260
65	800	430
80	1000	500
100	1300	690
125	1600	860
150	2000	1000

3.5. Heating chamber

Heating chamber is under filter casing. Inlet and outlet connections for the heating liquid are threated R 1/2 “.

3.6. Electrical heater

Electrical heater connection is 6/4”. Power supply is U=220 [V]

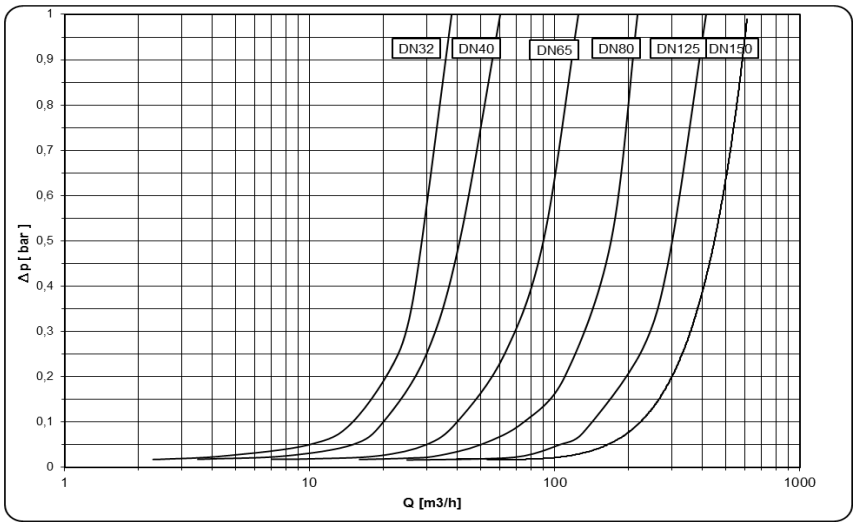
Filter size	Installed power [W]
32	400
40	400
65	400
80	700
100	700
125	700
150	1000

3.7. Thermostat

Thermostat is a temperature regulating device. Temperature for starting or switching the electrical heater can be regulated by means of the thermostat. Signal can be transferred to the control panel for activation/deactivation of electrical heater. Regulation range is t=30-130 [^{o}C].

3.8. Pressure loses

Values in the diagram are valid for viscosity υ=1 [cSt].

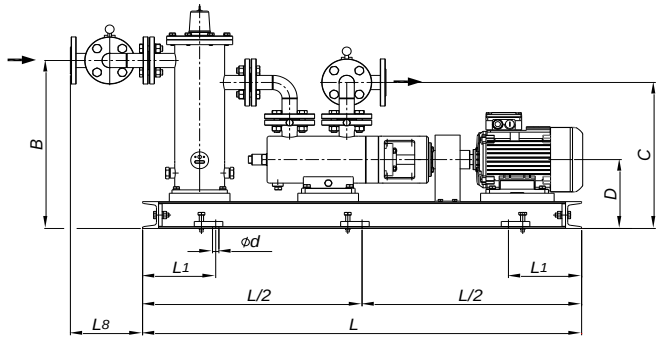


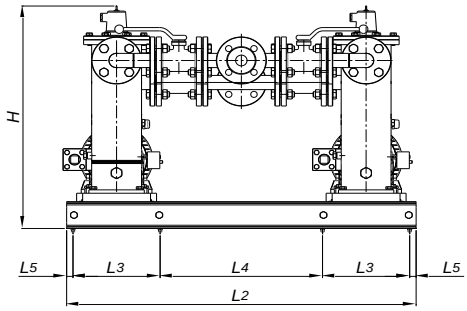
3.9. Connections for differential pressure measurement

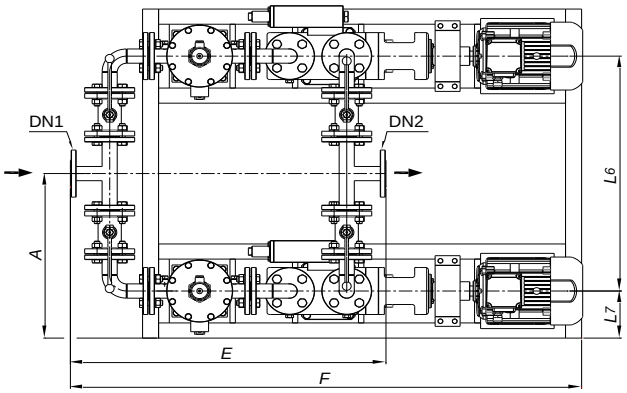
Connections for differential pressure measurement are threated R 1/4 “.

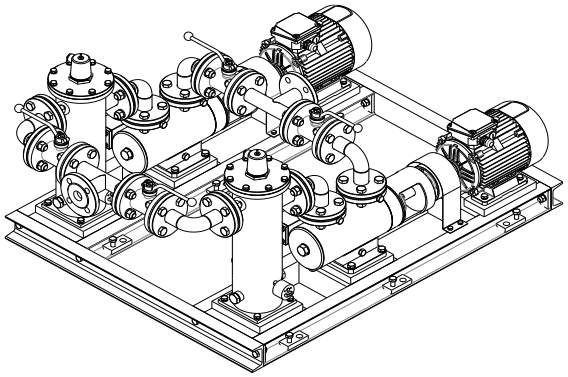
4. INSTALLATION DIMENSIONS

4.1. SVPF-A-3

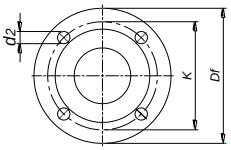








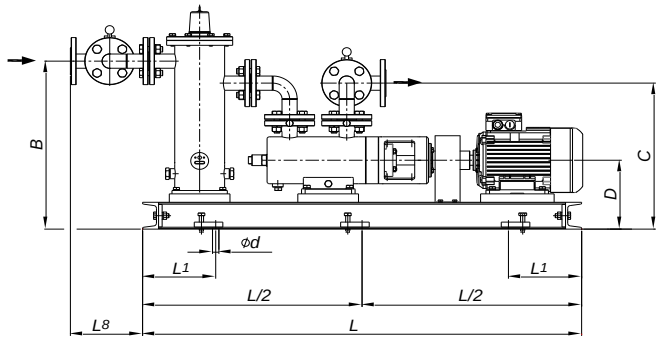
Pump size	Suction flange according EN 1092-1 PN16				
	Nominal Diameter DN1	Outside Diameter Df	Bolt circle K	Bolt Number n	Bolt Holes d_2
3	32	140	100	4	18

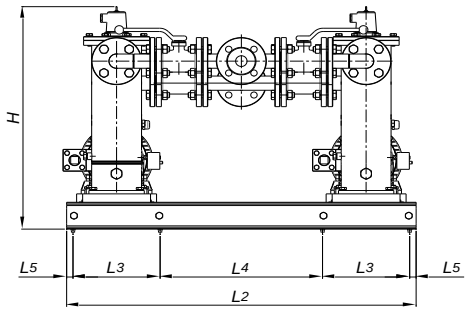


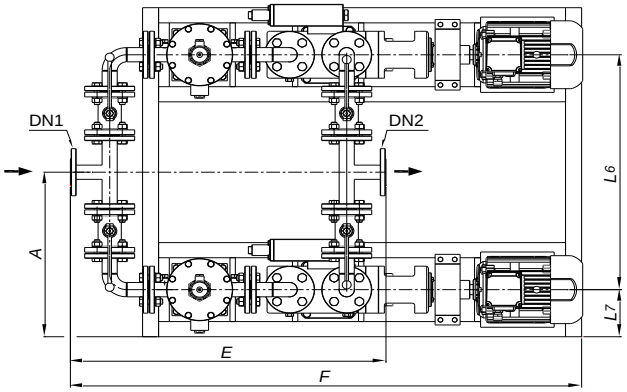
Pump size	Discharge flange according EN 1092-1 PN40				
	Nominal Diameter DN2	Outside diameter Df	Bolt circle K	Bolt Number n	Bolt Holes d_2
3	32	140	100	4	18

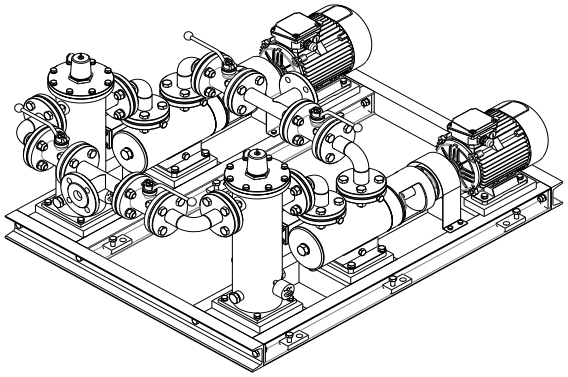
Electric motor 380V / 3 Phase / 50Hz				Dimensions (mm)																	Weight
Frame	Installed motor power [kW]			A	B	C	D	E	F	H	L	L_1	L_2	L_3	L_4	L_5	L_6	L_7	L_8	d	kg
	960 [rpm]	1450 [rpm]	2900 [rpm]																		
71B	0,25	0,37	--	490	500	435	205	884	1342	662	1140	205	979	244	455	18	700	140	202	18	309
80A	0.37	0.55	--	490	500	435	205	884	1342	662	1140	205	979	244	455	18	700	140	202	18	333
80B	0.55	0.75	1,1	490	500	435	205	884	1342	662	1140	205	979	244	455	18	700	140	202	18	333
90S	0.75	1.1	1.5	490	500	435	205	884	1362	662	1160	205	979	244	455	18	700	140	202	18	345
90L	1.1	1.5	2.2	490	500	435	205	884	1392	662	1190	205	979	244	455	18	700	140	202	18	354
100L	1.5	2.2	3	490	500	435	205	884	1432	662	1230	205	979	244	455	18	700	140	202	18	380
100Ld	--	3	--	490	500	435	205	884	1432	662	1230	205	979	244	455	18	700	140	202	18	380
112M	2.2	4	4	490	500	435	205	884	1432	662	1230	205	979	244	455	18	700	140	202	18	391
132Sk	--	--	5,5	515	525	460	230	884	1480	687	1290	205	1029	294	405	18	700	165	190	18	471
132S	3	5.5	7.5	515	525	460	230	884	1480	687	1290	205	1029	294	405	18	700	165	190	18	471
132Mk	4	--	--	515	525	460	230	884	1520	687	1330	205	1029	294	405	18	700	165	190	18	477
132M	--	7,5	--	515	525	460	230	884	1520	687	1330	205	1029	294	405	18	700	165	190	18	477
160Mk	--	--	11	527	550	485	255	884	1580	712	1390	205	1054	319	380	18	700	250	190	18	570
160M	--	--	15	527	550	485	255	884	1580	712	1390	205	1054	319	380	18	700	250	190	18	570

4.2. SVPF-A-5



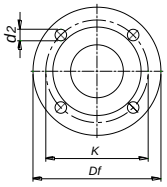






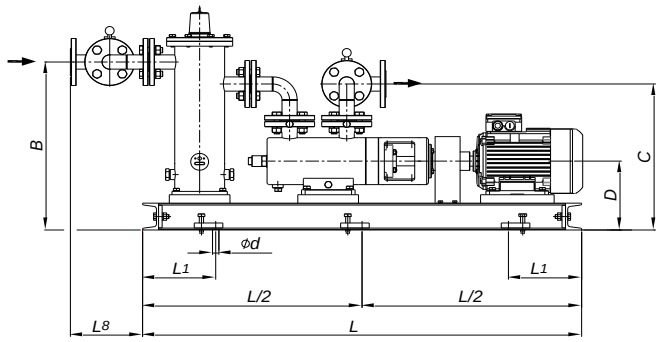
Pump size	Suction flange according EN 1092-1 PN16				
	Nominal Diameter DN1	Outside Diameter Df	Bolt circle K	Bolt Number n	Bolt Holes d_2
5	40	150	110	4	18

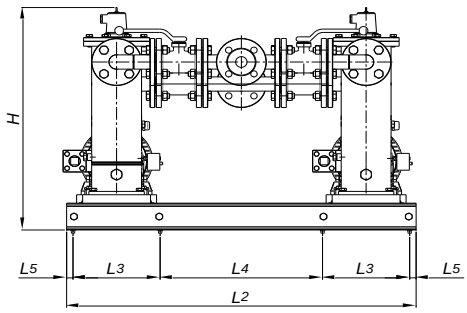
Pump size	Discharge flange according EN 1092-1 PN40				
	Nominal Diameter DN2	Outside diameter Df	Bolt circle K	Bolt Number n	Bolt Holes d_2
5	40	150	110	4	18

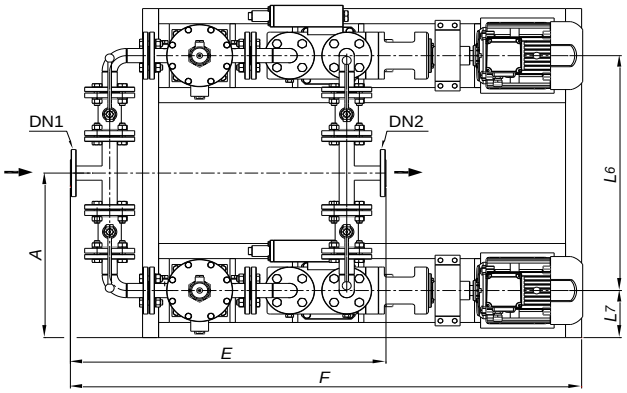


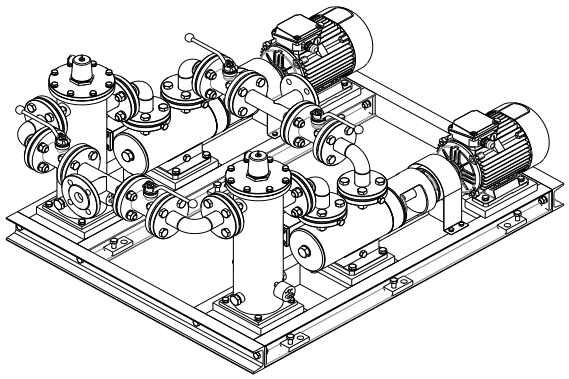
Electric motor 380V / 3 Phase / 50Hz				Dimensions (mm)																Weight
Frame	Installed motor power [kW]			A	B	C	D	E	F	H	L	L_1	L_2	L_3	L_4	L_5	L_6	L_7	L_8	d	
	960 [rpm]	1450 [rpm]	2900 [rpm]																	
80A	0.37	0.55	--	492	500	427	205	875	1333	662	1140	205	984	244	460	18	704	140	193	18	325
80B	0.55	0.75	--	492	500	427	205	875	1333	662	1140	205	984	244	460	18	704	140	193	18	325
90S	0.75	1.1	1.5	492	500	427	205	875	1353	662	1160	205	984	244	460	18	704	140	193	18	350
90L	1.1	1.5	2.2	492	500	427	205	875	1383	662	1190	205	984	244	460	18	704	140	193	18	363
100L	1.5	2.2	3	492	500	427	205	875	1423	662	1230	205	984	244	460	18	704	140	193	18	402
100Ld	--	3	--	492	500	427	205	875	1423	662	1230	205	984	244	460	18	704	140	193	18	402
112M	2.2	4	4	492	500	427	205	875	1423	662	1230	205	984	244	460	18	704	140	193	18	396
132Sk	--	--	5,5	517	525	452	230	875	1471	687	1290	205	1034	294	410	18	704	165	181	18	477
132S	3	5.5	7.5	517	525	452	230	875	1471	687	1290	205	1034	294	410	18	704	165	181	18	477
132Mk	4	--	--	517	525	452	230	875	1511	687	1330	205	1034	294	410	18	704	165	181	18	483
132M	5,5	7,5	--	517	525	452	230	875	1511	687	1330	205	1034	294	410	18	704	165	181	18	483
160Mk	--	--	11	530	550	477	255	875	1571	712	1390	205	1059	319	385	18	704	178	181	18	576
160M	--	11	15	530	550	477	255	875	1571	712	1390	205	1059	319	385	18	704	178	181	18	576

4.3. SVPF-A-10



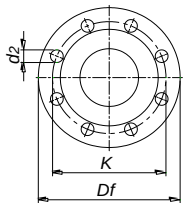






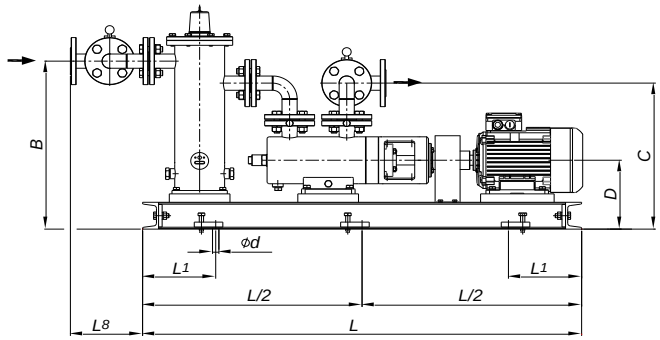
Pump size	Suction flange according EN 1092-1 PN16				
	Nominal Diameter DN1	Outside Diameter Df	Bolt circle K	Bolt Number n	Bolt Holes d_2
10	65	185	145	4	18

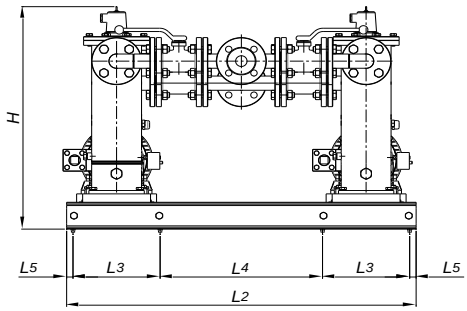
Pump size	Discharge flange according EN 1092-1 PN40				
	Nominal Diameter DN2	Outside Diameter Df	Bolt circle K	Bolt Number n	Bolt Holes d_2
10	65	185	145	8	18

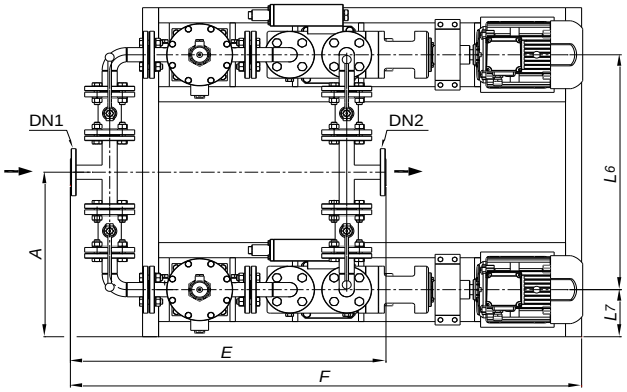


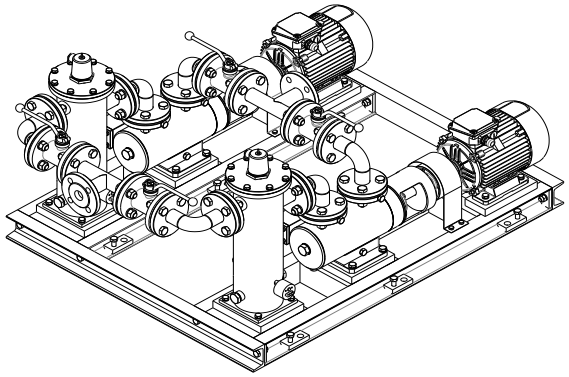
Electric motor 380V / 3 Phase / 50Hz				Dimensions (mm)																	Weight
Frame	Installed motor power [kW]			A	B	C	D	E	F	H	L	L_1	L_2	L_3	L_4	L_5	L_6	L_7	L_8	d	kg
	960 [rpm]	1450 [rpm]	2900 [rpm]																		
90S	0.75	1.1	1.5	580	642	545	255	1060	1575	828	1320	230	1160	242	638	19	880	140	255	22	344
90L	1.1	1.5	2.2	580	642	545	255	1060	1595	828	1340	230	1160	242	638	19	880	140	255	22	365
100L	1.5	2.2	3	580	642	545	255	1060	1645	828	1390	230	1160	242	638	19	880	140	255	22	392
100Ld	--	3	--	580	642	545	255	1060	1645	828	1390	230	1160	242	638	19	880	140	255	22	392
112M	2.2	4	4	580	642	545	255	1060	1645	828	1390	230	1160	242	638	19	880	140	255	22	408
132Sk	--	--	5,5	595	642	545	255	1060	1685	828	1430	230	1190	272	608	19	880	155	255	22	482
132S	3	5.5	7.5	595	642	545	255	1060	1685	828	1430	230	1190	272	608	19	880	155	255	22	482
132Mk	4	--	--	595	642	545	255	1060	1725	828	1470	230	1190	272	608	19	880	155	255	22	489
132M	5,5	7,5	--	595	642	545	255	1060	1725	828	1470	230	1190	272	608	19	880	155	255	22	489
160Mk	--	--	11	618	704	607	317	1060	1810	890	1560	235	1235	309	571	23	880	178	250	22	651
160M	7,5	11	15	618	704	607	317	1060	1810	890	1560	235	1235	309	571	23	880	178	250	22	651
160L	11	15	18,5	618	704	607	317	1060	1860	890	1610	235	1235	309	571	23	880	178	250	22	697
180M	--	--	22	635	704	607	317	1060	1900	890	1650	235	1270	344	536	23	880	195	250	22	763
200Lk	--	--	30	660	767	670	380	1060	1970	953	1730	275	1320	395	485	22	880	220	240	22	969

4.4. SVPF-A-15



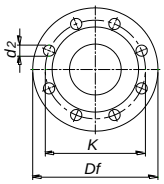






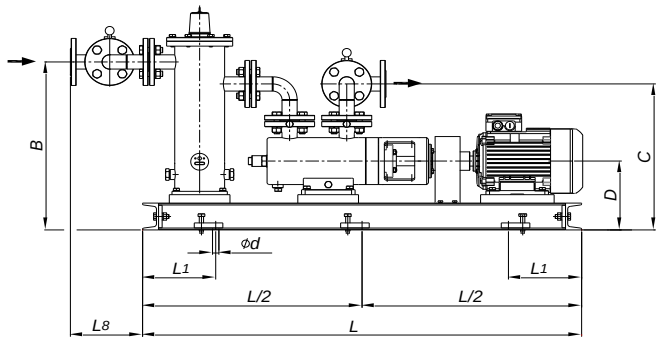
Pump size	Suction flange according EN 1092-1 PN16				
	Nominal Diameter DN1	Outside Diameter Df	Bolt circle K	Bolt Number n	Bolt Holes d_2
15	80	200	160	8	18

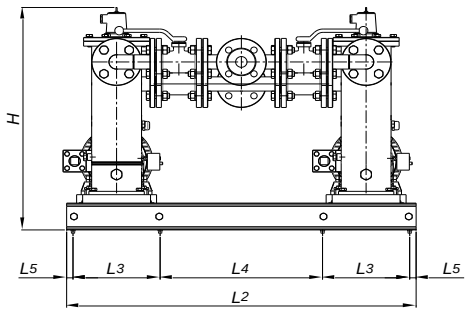
Pump size	Discharge flange according EN 1092-1 PN40				
	Nominal Diameter DN2	Outside Diameter Df	Bolt circle K	Bolt Number n	Bolt Holes d_2
15	80	200	160	8	18

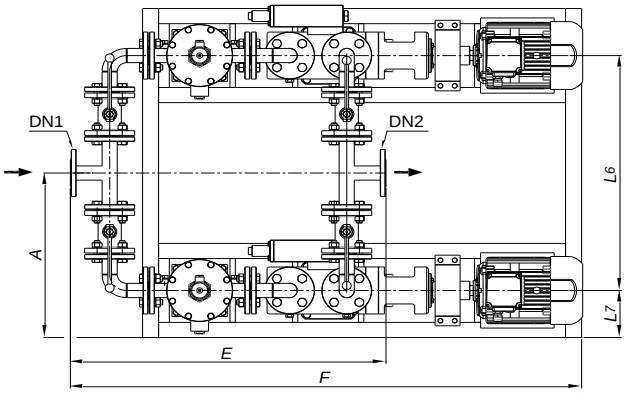


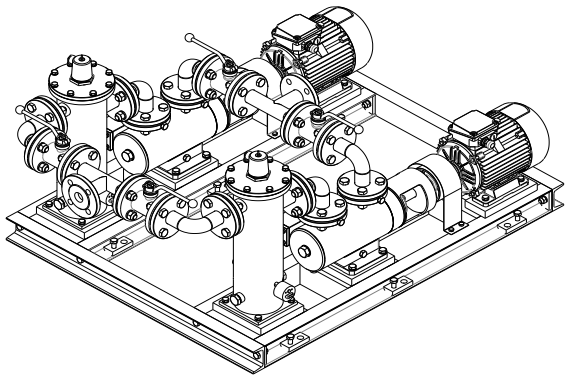
Electric motor 380V / 3 Phase / 50Hz				Dimensions (mm)																	Weight
Frame	Installed motor power [kW]			A	B	C	D	E	F	H	L	L_1	L_2	L_3	L_4	L_5	L_6	L_7	L_8	d	kg
	960 [rpm]	1450 [rpm]	2900 [rpm]																		
132S	3	5,5	--	670	739	625	280	1287	1934	933	1615	235	1339	264	765	23	1029	155	319	22	785
132Mk	4	--	--	670	739	625	280	1287	1974	933	1655	235	1339	264	765	23	1029	155	319	22	796
132M	5,5	7,5	--	670	739	625	280	1287	1974	933	1655	235	1339	264	765	23	1029	155	319	22	796
160Mk	--	--	11	692	769	655	310	1287	2049	963	1730	235	1384	309	720	23	1029	178	319	22	927
160M	7,5	11	15	692	769	655	310	1287	2049	963	1730	235	1384	309	720	23	1029	178	319	22	927
160L	11	15	18,5	692	769	655	310	1287	2099	963	1780	235	1384	309	720	23	1029	178	319	22	976
180M	--	18,5	22	710	799	685	340	1287	2129	993	1810	235	1419	344	685	23	1029	195	319	22	1056
180L	15	22	--	710	799	685	340	1287	2129	993	1810	235	1419	344	685	23	1029	195	319	22	1076
200Lk	18,5	--	30	735	859	745	400	1287	2199	1053	1890	265	1469	385	644	28	1029	220	309	22	1276
200L	22	30	37	735	859	745	400	1287	2199	1053	1890	265	1469	385	644	28	1029	220	309	22	1276
225S	--	37	--	757	879	765	420	1287	2239	1073	1930	265	1514	430	599	28	1029	243	309	22	1419
225M	--	--	45	757	879	765	420	1287	2239	1073	1930	265	1514	430	599	28	1029	243	309	22	1468
250M	--	--	55	787	899	785	440	1287	2309	1093	2000	265	1584	490	539	28	1029	273	309	22	1680
280S	--	--	75	817	919	805	460	1287	2389	1113	2080	265	1634	550	479	28	1029	303	309	22	1989

4.5. SVPF-A-20



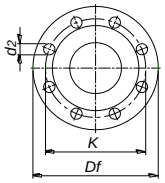






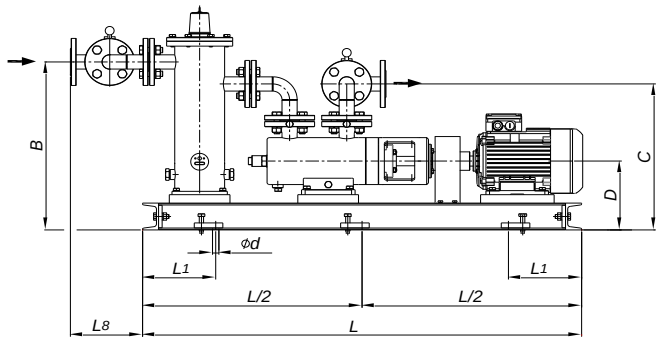
Pump size	Suction flange according EN 1092-1 PN16				
	Nominal Diameter DN1	Outside Diameter Df	Bolt circle K	Bolt Number n	Bolt Holes d_2
20	100	220	180	8	18

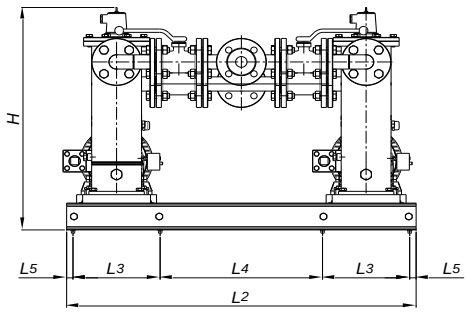
Pump size	Discharge flange according EN 1092-1 PN40				
	Nominal Diameter DN2	Outside Diameter Df	Bolt circle K	Bolt Number n	Bolt Holes d_2
20	100	235	190	8	22

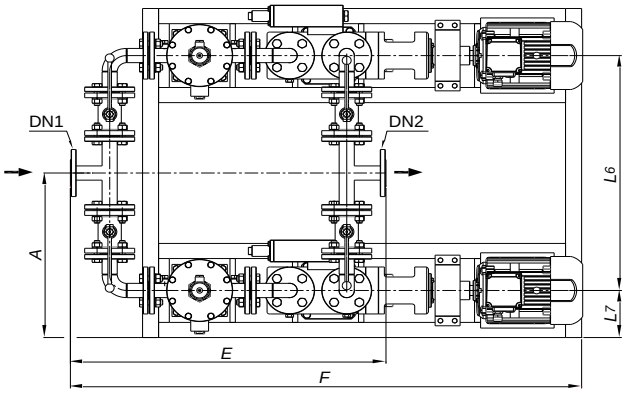


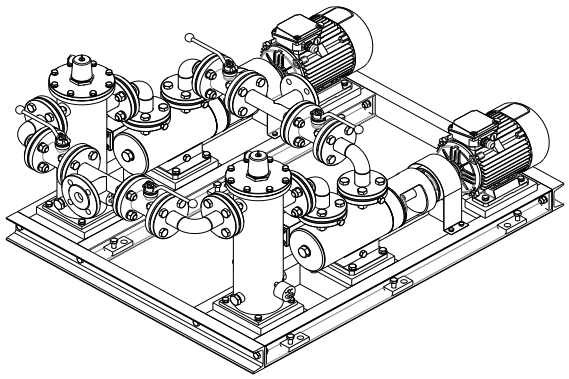
Electric motor 380V / 3 Phase / 50Hz			Dimensions (mm)																	Weight
Frame	Installed motor power [kW] 960 [rpm]	1450 [rpm]	A	B	C	D	E	F	H	L	L_1	L_2	L_3	L_4	L_5	L_6	L_7	L_8	d	kg
112M	--	4	728	785	658	300	1441	2006	975	1640	235	1455	264	881	23	1145	155	366	22	1102
132S	3	5,5	728	785	658	300	1441	2041	975	1675	235	1455	264	881	23	1145	155	366	22	1168
132Mk	4	--	728	785	658	300	1441	2081	975	1715	235	1455	264	881	23	1145	155	366	22	1183
132M	5,5	7,5	728	785	658	300	1441	2081	975	1715	235	1455	264	881	23	1145	155	366	22	1183
160M	7,5	11	750	785	658	300	1441	2161	975	1795	235	1500	309	836	23	1145	178	366	22	1296
160L	11	15	750	785	658	300	1441	2211	975	1845	235	1500	309	836	23	1145	178	366	22	1245
180M	--	18,5	768	815	688	330	1441	2246	1005	1880	235	1535	344	801	23	1145	195	366	22	1430
180L	15	22	768	815	688	330	1441	2246	1005	1880	235	1535	344	801	23	1145	195	366	22	1450
200Lk	18,5	--	793	885	758	400	1441	2311	1075	1955	265	1585	385	760	28	1145	220	356	22	1845
200L	22	30	793	885	758	400	1441	2311	1075	1955	265	1585	385	760	28	1145	220	356	22	1845
225S	--	37	815	905	778	420	1441	2336	1095	1980	265	1630	430	715	28	1145	243	356	22	1795
225M	30	45	815	905	778	420	1441	2376	1095	2020	265	1630	430	715	28	1145	243	356	22	1943
250M	37	55	845	925	798	440	1441	2436	1115	2080	265	1690	490	655	28	1145	273	356	22	2056
280S	--	75	875	945	818	460	1441	2511	1135	2155	265	1750	550	595	28	1145	303	356	22	2367

4.6. SVPF-A-45



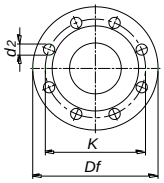






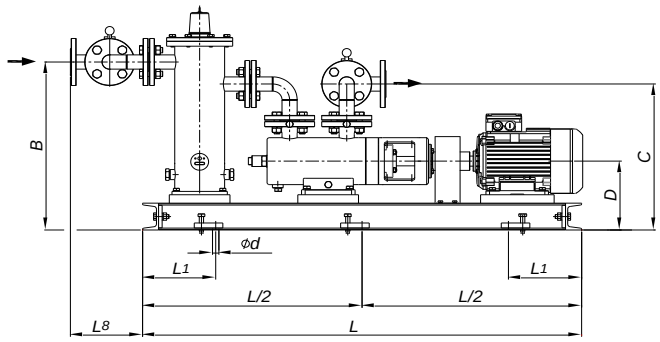
Pump size	Suction flange according EN 1092-1 PN16				
	Nominal Diameter DN1	Outside Diameter Df	Bolt circle K	Bolt Number n	Bolt Holes d_2
45	125	250	210	8	18

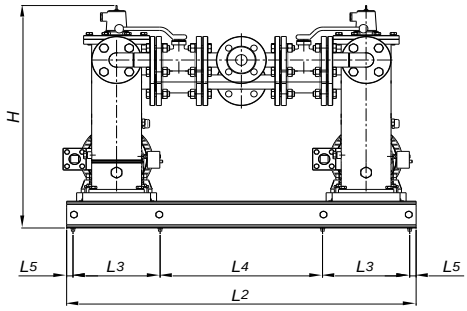
Pump size	Discharge flange according EN 1092-1 PN40				
	Nominal Diameter DN2	Outside Diameter Df	Bolt circle K	Bolt Number n	Bolt Holes d_2
45	125	270	220	8	26

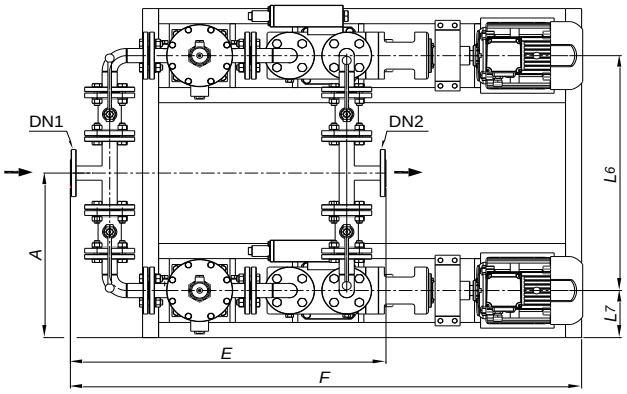


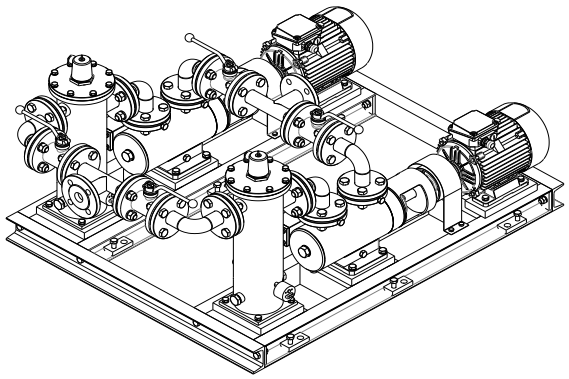
Electric motor 380V / 3 Phase / 50Hz			Dimensions (mm)																	Weight
Frame	Installed motor power [kW]		A	B	C	D	E	F	H	L	L_1	L_2	L_3	L_4	L_5	L_6	L_7	L_8	d	kg
	960 [rpm]	1450 [rpm]																		
132M	5,5	7,5	1033	1021	850	362	1790	2465	1250	1975	235	2066	364	1292	23	1656	205	490	24	1446
160M	7,5	11	1033	1021	850	362	1790	2545	1250	2055	235	2066	364	1292	23	1656	205	490	24	1529
160L	11	15	1033	1021	850	362	1790	2595	1250	2105	235	2066	364	1292	23	1656	205	490	24	1579
180M	--	18,5	1033	1021	850	362	1790	2630	1250	2140	235	2066	364	1292	23	1656	205	490	24	1659
180L	15	22	1033	1021	850	362	1790	2630	1250	2140	235	2066	364	1292	23	1656	205	490	24	1678
200Lk	18,5	--	1048	1061	890	402	1790	2690	1290	2210	275	2096	385	1271	28	1656	220	480	24	1865
200L	22	30	1048	1061	890	402	1790	2690	1290	2210	275	2096	385	1271	28	1656	220	480	24	1865
225S	--	37	1071	1061	890	402	1790	2725	1290	2245	275	2141	430	1226	28	1656	243	480	24	1980
225M	30	45	1071	1061	890	402	1790	2750	1290	2270	275	2141	430	1226	28	1656	243	480	24	2031
250M	--	55	1100	1091	920	432	1790	2810	1320	2330	275	2201	490	1166	28	1656	273	480	24	2249

4.7. SVPF-A-50



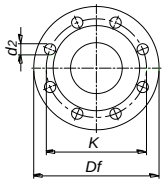






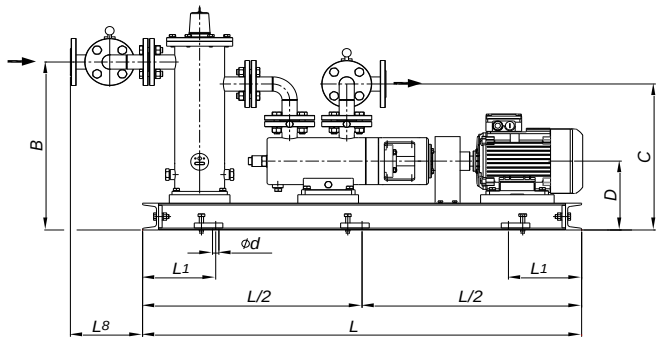
Pump size	Suction flange according EN 1092-1 PN16				
	Nominal Diameter DN1	Outside Diameter Df	Bolt circle K	Bolt Number n	Bolt Holes d_2
50	125	250	210	8	18

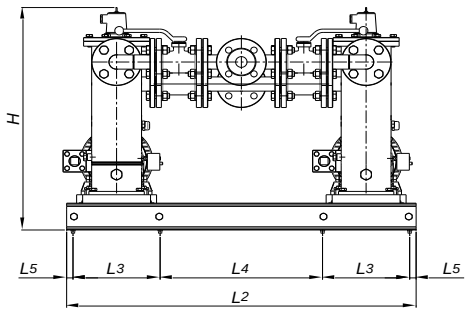
Pump size	Discharge flange according EN 1092-1 PN40				
	Nominal Diameter DN2	Outside Diameter Df	Bolt circle K	Bolt Number n	Bolt Holes d_2
50	125	270	220	8	26

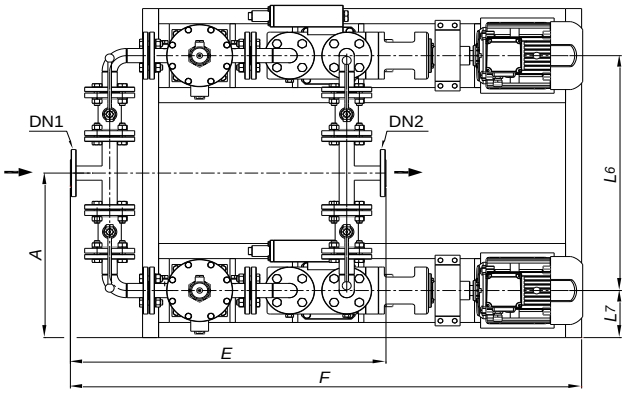


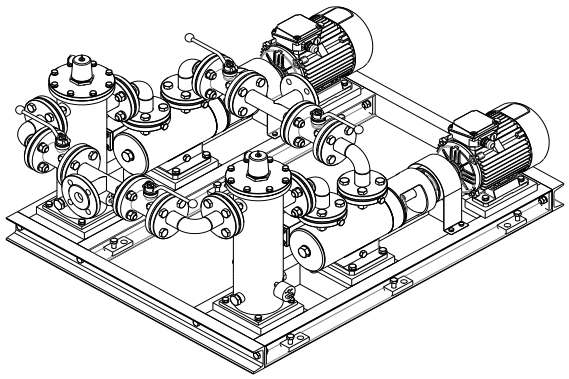
Electric motor 380V / 3 Phase / 50Hz			Dimensions (mm)																	Weight
Frame	Installed motor power [kW]		A	B	C	D	E	F	H	L	L_1	L_2	L_3	L_4	L_5	L_6	L_7	L_8	d	kg
	960 [rpm]	1450 [rpm]																		
132M	5,5	7,5	1033	1021	850	362	1790	2465	1250	1975	235	2066	364	1292	23	1656	205	490	24	1446
160M	7,5	11	1033	1021	850	362	1790	2545	1250	2055	235	2066	364	1292	23	1656	205	490	24	1529
160L	11	15	1033	1021	850	362	1790	2595	1250	2105	235	2066	364	1292	23	1656	205	490	24	1579
180M	--	18,5	1033	1021	850	362	1790	2630	1250	2140	235	2066	364	1292	23	1656	205	490	24	1659
180L	15	22	1033	1021	850	362	1790	2630	1250	2140	235	2066	364	1292	23	1656	205	490	24	1678
200Lk	18,5	--	1048	1061	890	402	1790	2690	1290	2210	275	2096	385	1271	28	1656	220	480	24	1865
200L	22	30	1048	1061	890	402	1790	2690	1290	2210	275	2096	385	1271	28	1656	220	480	24	1865
225S	--	37	1071	1061	890	402	1790	2725	1290	2245	275	2141	430	1226	28	1656	243	480	24	1980
225M	30	45	1071	1061	890	402	1790	2750	1290	2270	275	2141	430	1226	28	1656	243	480	24	2031
250M	--	55	1100	1091	920	432	1790	2810	1320	2330	275	2201	490	1166	28	1656	273	480	24	2249

4.8. SVPF-A-100



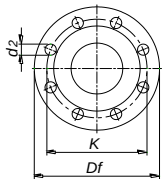






Pump size	Suction flange according EN 1092-1 PN16				
	Nominal Diameter DN1	Outside Diameter Df	Bolt circle K	Bolt Number n	Bolt Holes d_2
100	150	285	240	8	22

Pump size	Discharge flange according EN 1092-1 PN40				
	Nominal Diameter DN2	Outside Diameter Df	Bolt circle K	Bolt Number n	Bolt Holes d_2
100	150	300	250	8	26



Electric motor 380V / 3 Phase / 50Hz			Dimensions (mm)																	Weight
Frame	Installed motor power [kW]		A	B	C	D	E	F	H	L	L_1	L_2	L_3	L_4	L_5	L_6	L_7	L_8	d	kg
	960 [rpm]	1450 [rpm]																		
160M	7,5	--	1124	1160	964	430	2025	2788	1402	2220	275	2247	385	1422	28	1807	220	568	26	1940
160L	11	15	1124	1160	964	430	2025	2848	1402	2280	275	2247	385	1422	28	1807	220	568	26	1991
180M	--	18,5	1124	1160	964	430	2025	2888	1402	2320	275	2247	385	1422	28	1807	220	568	26	2059
180L	15	22	1124	1160	964	430	2025	2888	1402	2320	275	2247	385	1422	28	1807	220	568	26	2080
200Lk	18,5	--	1124	1160	964	430	2025	2938	1402	2370	275	2247	385	1422	28	1807	220	568	26	2175
200L	22	30	1124	1160	964	430	2025	2938	1402	2370	275	2247	385	1422	28	1807	220	568	26	2175
225S	--	37	1146	1160	964	430	2025	2963	1402	2395	275	2292	430	1377	28	1807	243	568	26	2352
225M	30	45	1146	1160	964	430	2025	2988	1402	2420	275	2292	430	1377	28	1807	243	568	26	2404
250M	37	55	1176	1160	964	430	2025	3048	1402	2480	275	2352	490	1317	28	1807	273	568	26	2612
280S	--	75	1204	1190	994	460	2025	3128	1432	2560	275	2407	545	1262	28	1807	300	568	26	2888

5. PUMPS PERFORMANCES

Pump size	speed	ΔP	1,5ºE (6 cSt)			5ºE (37.4 cSt)			10ºE (76 cSt)			20ºE (152 cSt)			50ºE (380 cSt)			100ºE (760 cSt)		
	[rpm]	[bar]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]
SIZE - 3 / 2M [50 Hz]	960	2,5	20.69	1.24	0.131	21.05	1.26	0.13	21.30	1.28	0.16	21.40	1.28	0.20	21.50	1.29	0.25	21.60	1.30	0.30
		5	19.61	1.18	0.221	20.17	1.21	0.23	20.60	1.24	0.26	21.00	1.26	0.30	21.20	1.27	0.33	21.30	1.28	0.40
		10	16.92	1.02	0.343	17.81	1.07	0.36	18.50	1.11	0.49	19.50	1.17	0.52	20.30	1.22	0.55	20.60	1.24	0.60
		15	14.74	0.88	0.552	16.06	0.96	0.60	17.00	1.02	0.64	18.50	1.11	0.70	19.40	1.16	0.75	20.20	1.21	0.80
		20	-	-	-	-	-	-	-	-	-	17.50	1.05	0.88	19.00	1.14	0.85	19.70	1.18	1.00
		25	-	-	-	-	-	-	-	-	-	-	-	-	17.70	1.06	1.50	18.80	1.13	1.70
	1450	2,5	33.02	1.98	0.246	33.60	2.02	0.25	34.00	2.04	0.30	34.80	2.09	0.45	34.90	2.09	0.48	34.90	2.09	0.90
		5	31.71	1.90	0.409	32.60	1.96	0.42	33.30	2.00	0.48	34.50	2.07	0.55	34.70	2.08	0.65	34.80	2.09	1.05
		10	29.45	1.77	0.665	31.00	1.86	0.70	32.20	1.93	0.95	33.00	1.98	0.85	33.80	2.03	0.95	34.10	2.05	1.50
		15	26.61	1.60	0.991	29.00	1.74	1.08	30.70	1.84	1.15	32.00	1.92	1.25	33.10	1.99	1.35	33.70	2.02	1.60
		20	18.55	1.11	0.879	27.00	1.62	1.28	29.30	1.76	1.35	31.00	1.86	1.45	32.00	1.92	1.55	33.10	1.99	1.90
		25	-	-	-	-	-	-	26.50	1.59	1.65	29.00	1.74	1.75	31.20	1.87	1.80	32.50	1.95	2.20
		30	-	-	-	-	-	-	-	-	-	27.60	1.66	2.05	30.50	1.83	2.10	31.70	1.90	2.50
	2900	2.5	66.72	4.00	0.681	68.60	4.12	0.70	69.00	4.14	1.00	69.50	4.17	1.30	69.80	4.19	1.70	69.80	4.19	2.50
		5	64.21	3.85	1.045	67.60	4.06	1.10	68.30	4.10	1.33	69.30	4.16	1.65	69.60	4.18	2.05	69.70	4.18	2.75
		10	60.56	3.63	1.56	66.00	3.96	1.70	66.70	4.00	1.92	68.00	4.08	2.20	68.80	4.13	2.60	69.00	4.14	3.30
		15	43.96	2.64	1.546	64.00	3.84	2.25	65.70	3.94	2.50	67.00	4.02	2.85	68.00	4.08	3.20	68.70	4.12	3.90
		20	37.33	2.24	1.716	62.00	3.72	2.85	64.80	3.89	3.05	66.00	3.96	3.35	67.00	4.02	3.75	68.00	4.08	4.45
		25	0	0.00	0	58.00	3.48	3.40	61.00	3.66	3.65	64.00	3.84	4.00	66.00	3.96	3.45	67.50	4.05	5.05
		30	-	-	-	-	-	-	59.00	3.54	4.25	62.50	3.75	4.60	65.50	3.93	4.90	66.70	4.00	5.60

Pump size	speed	ΔP	1,5ºE (6 cSt)			5ºE (37.4 cSt)			10ºE (76 cSt)			20ºE (152 cSt)			50ºE (380 cSt)			100ºE (760 cSt)		
	[rpm]	[bar]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]
SIZE - 3 / 3M [50 Hz]	960	0	16.78	1.01	0.12	16.98	1.02	0.23	17.05	1.02	0.34	17.09	1.03	0.50	17.14	1.03	0.83	18.34	1.10	1.22
		5	16.41	0.98	0.27	16.77	1.01	0.39	16.90	1.01	0.51	16.99	1.02	0.69	17.07	1.02	1.05	17.12	1.03	1.48
		10	15.62	0.94	0.40	16.34	0.98	0.52	16.60	1.00	0.63	16.78	1.01	0.79	16.94	1.02	1.13	17.02	1.02	1.53
		15	14.56	0.87	0.56	15.76	0.95	0.70	16.19	0.97	0.83	16.49	0.99	1.02	16.75	1.01	1.42	16.89	1.01	1.88
		20	8.75	0.53	0.69	12.58	0.75	0.81	13.94	0.84	0.92	14.90	0.89	1.09	15.75	0.94	1.43	16.18	0.97	1.84
		25	7.17	0.43	0.82	11.71	0.70	0.92	13.32	0.80	1.02	14.46	0.87	1.17	15.47	0.93	1.49	15.98	0.96	1.85
		30	5.27	0.32	0.97	10.67	0.64	1.09	12.59	0.76	1.21	13.94	0.84	1.38	15.14	0.91	1.73	15.75	0.95	2.15
		40	-	-	-	9.40	0.56	1.46	11.69	0.70	1.61	13.31	0.80	1.84	14.74	0.88	2.31	15.47	0.93	2.86
		50	-	-	-	-	-	-	-	-	-	12.19	0.73	2.10	14.04	0.84	2.56	14.97	0.90	3.11
		60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1450	0	25.34	1.52	0.21	25.64	1.54	0.42	25.75	1.54	0.61	25.82	1.55	0.90	25.89	1.55	1.50	25.92	1.56	2.20
		5	24.79	1.49	0.41	25.33	1.52	0.60	25.53	1.53	0.78	25.67	1.54	1.04	25.79	1.55	1.59	25.85	1.55	2.23
		10	23.59	1.42	0.61	24.68	1.48	0.78	25.07	1.50	0.95	25.34	1.52	1.19	25.58	1.53	1.70	25.70	1.54	2.30
		15	21.99	1.32	0.85	23.81	1.43	1.06	24.45	1.47	1.25	24.90	1.49	1.54	25.31	1.52	2.14	25.51	1.53	2.84
		20	13.22	0.79	1.04	19.00	1.14	1.22	21.05	1.26	1.39	22.50	1.35	1.64	23.79	1.43	2.16	24.43	1.47	2.78
		25	10.83	0.65	1.23	17.69	1.06	1.39	20.12	1.21	1.55	21.84	1.31	1.77	23.37	1.40	2.25	24.14	1.45	2.80
		30	7.96	0.48	1.47	16.12	0.97	1.65	19.01	1.14	1.83	21.06	1.26	2.08	22.87	1.37	2.62	23.79	1.43	3.25
		40	4.45	0.27	1.96	14.19	0.85	2.20	17.65	1.06	2.43	20.10	1.21	2.77	22.27	1.34	3.49	23.36	1.40	4.33
		50	-	-	-	-	-	-	15.27	0.92	2.84	18.42	1.10	3.18	21.20	1.27	3.87	22.61	1.36	4.69
		60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2900	0	50.69	3.04	0.47	51.28	3.08	0.93	51.49	3.09	1.36	51.64	3.10	2.00	51.77	3.11	3.33	51.84	3.11	4.89
		5	49.57	2.97	0.93	50.67	3.04	1.40	51.06	3.06	1.86	51.33	3.08	2.53	51.58	3.09	3.93	51.70	3.10	5.58
		10	47.18	2.83	1.32	49.36	2.96	1.77	50.13	3.01	2.20	50.68	3.04	2.84	51.16	3.07	4.16	51.41	3.08	5.71
		15	43.99	2.64	1.73	47.61	2.86	2.16	48.90	2.93	2.58	49.81	2.99	3.19	50.61	3.04	4.46	51.02	3.06	5.95
		20	26.44	1.59	2.16	38.00	2.28	2.60	42.10	2.53	3.03	45.00	2.70	3.65	47.57	2.85	4.94	48.87	2.93	6.46
		25	21.65	1.30	2.58	35.38	2.12	3.00	40.25	2.41	3.41	43.69	2.62	4.02	46.74	2.80	5.27	48.28	2.90	6.75
		30	15.91	0.95	2.97	32.23	1.93	3.36	38.02	2.28	3.74	42.12	2.53	4.30	45.75	2.74	5.47	47.58	2.85	6.83
		40	8.89	0.53	3.88	28.39	1.70	4.34	35.30	2.12	4.77	40.19	2.41	5.42	44.53	2.67	6.75	46.72	2.80	8.33
		50	-	-	-	-	-	-	30.55	1.83	5.46	36.83	2.21	6.03	42.41	2.54	7.21	45.22	2.71	8.60
		60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Pump size	speed	ΔP	1,5ºE (6 cSt)			5ºE (37.4 cSt)			10ºE (76 cSt)			20ºE (152 cSt)			50ºE (380 cSt)			100ºE (760 cSt)		
	[rpm]	[bar]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]
SIZE - 3 / 5M [50 Hz]	960	0	9.47	0.57	0.07	10.43	0.63	0.14	10.78	0.65	0.20	11.02	0.66	0.30	11.23	0.67	0.50	18.34	1.10	0.73
		5	9.23	0.55	0.16	10.30	0.62	0.22	10.68	0.64	0.28	10.95	0.66	0.36	11.19	0.67	0.54	11.31	0.68	0.75
		10	8.72	0.52	0.26	10.02	0.60	0.32	10.49	0.63	0.38	10.81	0.65	0.47	11.10	0.67	0.65	11.25	0.67	0.87
		15	8.04	0.48	0.34	9.65	0.58	0.40	10.22	0.61	0.46	10.63	0.64	0.54	10.98	0.66	0.71	11.16	0.67	0.91
		20	4.30	0.26	0.43	7.60	0.46	0.49	8.77	0.53	0.54	9.60	0.58	0.61	10.33	0.62	0.76	10.71	0.64	0.94
		25	3.28	0.20	0.53	7.04	0.42	0.58	8.38	0.50	0.63	9.32	0.56	0.70	10.16	0.61	0.84	10.58	0.63	1.02
		30	2.05	0.12	0.63	6.37	0.38	0.69	7.90	0.47	0.75	8.98	0.54	0.83	9.95	0.60	1.00	10.43	0.63	1.21
		40	-	-	-	5.55	0.33	0.93	7.32	0.44	1.01	8.57	0.51	1.12	9.69	0.58	1.36	10.25	0.61	1.65
		50	-	-	-	-	-	-	6.31	0.38	1.52	7.86	0.47	1.79	9.23	0.55	2.35	9.93	0.60	3.01
		60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1450	0	14.31	0.86	0.15	15.76	0.95	0.30	16.28	0.98	0.44	16.64	1.00	0.65	16.96	1.02	1.08	17.13	1.03	1.59
		5	13.95	0.84	0.27	15.56	0.93	0.39	16.14	0.97	0.50	16.54	0.99	0.67	16.90	1.01	1.02	17.08	1.02	1.43
		10	13.18	0.79	0.40	15.14	0.91	0.51	15.84	0.95	0.62	16.33	0.98	0.77	16.77	1.01	1.09	16.99	1.02	1.47
		15	12.15	0.73	0.56	14.58	0.87	0.69	15.44	0.93	0.81	16.05	0.96	0.99	16.59	1.00	1.37	16.86	1.01	1.81
		20	6.49	0.39	0.69	11.48	0.69	0.80	13.25	0.79	0.90	14.50	0.87	1.06	15.61	0.94	1.38	16.17	0.97	1.76
		25	4.95	0.30	0.82	10.64	0.64	0.91	12.65	0.76	1.01	14.08	0.84	1.14	15.34	0.92	1.43	15.98	0.96	1.76
		30	3.10	0.19	0.97	9.62	0.58	1.08	11.94	0.72	1.19	13.57	0.81	1.34	15.02	0.90	1.66	15.75	0.95	2.04
		40	0.84	0.05	1.30	8.38	0.50	1.44	11.06	0.66	1.58	12.95	0.78	1.79	14.63	0.88	2.21	15.48	0.93	2.72
		50	-	-	-	6.21	0.37	1.72	9.53	0.57	1.85	11.87	0.71	2.05	13.95	0.84	2.45	14.99	0.90	2.93
		60	-	-	-	-	-	-	8.17	0.49	2.42	10.91	0.65	2.76	13.34	0.80	3.44	14.56	0.87	4.25
	2900	0	28.61	1.72	0.33	31.52	1.89	0.65	32.55	1.95	0.95	33.28	2.00	1.40	33.93	2.04	2.33	34.25	2.06	3.42
		5	27.89	1.67	0.61	31.13	1.87	0.91	32.27	1.94	1.20	33.08	1.98	1.63	33.80	2.03	2.53	34.16	2.05	3.58
		10	26.35	1.58	0.87	30.28	1.82	1.16	31.67	1.90	1.43	32.66	1.96	1.83	33.53	2.01	2.66	33.98	2.04	3.64
		15	24.29	1.46	1.14	29.15	1.75	1.41	30.88	1.85	1.67	32.10	1.93	2.06	33.18	1.99	2.85	33.72	2.02	3.78
		20	12.99	0.78	1.43	22.96	1.38	1.70	26.50	1.59	1.97	29.00	1.74	2.35	31.22	1.87	3.15	32.34	1.94	4.09
		25	9.90	0.59	1.71	21.27	1.28	1.97	25.30	1.52	2.22	28.16	1.69	2.59	30.69	1.84	3.36	31.96	1.92	4.26
		30	6.20	0.37	1.97	19.24	1.15	2.21	23.87	1.43	2.44	27.14	1.63	2.77	30.04	1.80	3.47	31.51	1.89	4.30
		40	1.68	0.10	2.58	16.77	1.01	2.85	22.12	1.33	3.11	25.90	1.55	3.49	29.26	1.76	4.29	30.95	1.86	5.22
		50	-	-	-	12.43	0.75	3.34	19.05	1.14	3.56	23.73	1.42	3.89	27.89	1.67	4.56	29.98	1.80	5.36
		60	-	-	-	8.60	0.52	3.98	16.34	0.98	4.24	21.82	1.31	4.62	26.68	1.60	5.40	29.13	1.75	6.32

Pump size	speed	P	1,5ºE (6 cSt)			5ºE (37.4 cSt)			10ºE (76 cSt)			20ºE (152 cSt)			50ºE (380 cSt)			100ºE (760 cSt)		
	[rpm]	[bar]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]
SIZE - 5 / 2M [50 Hz]	960	2.5	33.42	2.00	0.226	34.00	2.04	0.23	34.50	2.07	0.25	35.00	2.10	0.30	35.50	2.13	0.42	35.60	2.14	0.55
		5	31.12	1.87	0.34	32.00	1.92	0.35	33.00	1.98	0.38	34.00	2.04	0.45	34.70	2.08	0.55	35.00	2.10	0.68
		10	23.75	1.42	0.522	25.00	1.50	0.55	30.00	1.80	0.60	32.00	1.92	0.80	33.50	2.01	0.90	34.00	2.04	1.00
		15	21.11	1.27	0.734	23.00	1.38	0.80	26.50	1.59	0.85	29.50	1.77	1.05	32.00	1.92	1.15	33.00	1.98	1.30
		20	-	-	-	-	-	-	24.00	1.44	1.20	27.50	1.65	1.40	30.50	1.83	1.50	32.00	1.92	1.60
		25	-	-	-	-	-	-	-	-	-	26.00	1.56	1.80	29.50	1.77	1.90	31.50	1.89	2.00
	1450	2.5	53.07	3.18	0.393	54.00	3.24	0.40	54.50	3.27	0.45	55.00	3.30	0.65	55.30	3.32	0.75	55.50	3.33	1.05
		5	50.58	3.03	0.613	52.00	3.12	0.63	53.20	3.19	0.70	54.00	3.24	0.80	54.70	3.28	0.95	55.00	3.30	1.30
		10	45.6	2.74	0.997	48.00	2.88	1.05	51.10	3.07	1.15	52.00	3.12	1.30	53.50	3.21	1.43	54.20	3.25	1.60
		15	39.46	2.37	1.422	43.00	2.58	1.55	49.00	2.94	1.65	49.50	2.97	1.78	52.00	3.12	1.86	53.00	3.18	1.97
		20	26.79	1.61	1.305	39.00	2.34	1.90	44.00	2.64	1.91	47.50	2.85	2.15	50.50	3.03	2.25	52.20	3.13	2.35
		25	21.68	1.30	1.385	36.00	2.16	2.30	42.00	2.52	2.40	46.00	2.76	2.55	49.50	2.97	2.65	57.50	3.45	2.75
		30	-	-	-	-	-	-	39.50	2.37	2.90	44.50	2.67	2.98	48.50	2.91	3.10	51.00	3.06	3.20
		35	-	-	-	-	-	-	-	-	-	42.00	2.52	3.40	47.00	2.82	3.50	49.50	2.97	3.60
	2900	2.5	108.1	6.49	1.179	110.00	6.60	1.20	110.50	6.63	1.50	111.00	6.66	1.85	111.40	6.68	2.30	111.50	6.69	3.60
		5	105	6.30	1.605	108.00	6.48	1.65	109.00	6.54	1.90	110.00	6.60	2.40	110.70	6.64	3.00	111.00	6.66	4.00
		10	98.79	5.93	2.375	104.00	6.24	2.50	106.00	6.36	2.90	108.00	6.48	3.30	109.00	6.54	3.88	110.00	6.60	4.89
		15	90.85	5.45	3.193	99.00	5.94	3.48	102.50	6.15	3.77	105.50	6.33	4.25	108.00	6.48	4.80	109.00	6.54	5.78
		20	65.25	3.92	2.967	95.00	5.70	4.32	100.00	6.00	4.60	103.50	6.21	5.10	106.00	6.36	5.75	108.00	6.48	6.72
		25	55.39	3.32	3.221	92.00	5.52	5.35	98.00	5.88	5.65	102.00	6.12	6.20	105.00	6.30	6.80	107.00	6.42	7.80
		30	-	-	-	-	-	-	95.50	5.73	6.50	100.00	6.00	7.55	104.00	6.24	7.65	106.00	6.36	8.55
		35	-	-	-	-	-	-	-	-	-	98.00	5.88	8.25	103.00	6.18	8.60	105.00	6.30	9.50

Pump size	speed	ΔP	1.5ºE (6 cSt)			5ºE (37.4 cSt)			10ºE (76 cSt)			20ºE (152 cSt)			50ºE (380 cSt)			100ºE (760 cSt)		
	[rpm]	[bar]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]
SIZE - 5 / 3M [50 Hz]	960	0	27.53	1.65	0.23	27.66	1.66	0.44	27.70	1.66	0.65	27.73	1.66	0.95	27.76	1.67	1.58	18.34	1.10	2.32
		5	26.93	1.62	0.44	27.33	1.64	0.64	27.47	1.65	0.83	27.57	1.65	1.12	27.66	1.66	1.71	27.70	1.66	2.40
		10	25.65	1.54	0.65	26.62	1.60	0.84	26.97	1.62	1.02	27.22	1.63	1.28	27.43	1.65	1.83	27.54	1.65	2.48
		15	23.93	1.44	0.91	25.69	1.54	1.13	26.31	1.58	1.34	26.75	1.60	1.66	27.14	1.63	2.30	27.33	1.64	3.06
		20	14.51	0.87	1.11	20.52	1.23	1.30	22.66	1.36	1.49	24.17	1.45	1.76	25.50	1.53	2.33	26.18	1.57	2.99
		25	11.94	0.72	1.32	19.12	1.15	1.49	21.66	1.30	1.66	23.46	1.41	1.91	25.06	1.50	2.42	25.86	1.55	3.01
		30	8.86	0.53	1.57	17.43	1.05	1.77	20.47	1.23	1.96	22.62	1.36	2.24	24.52	1.47	2.82	25.49	1.53	3.50
		40	-	-	-	15.36	0.92	2.36	19.01	1.14	2.61	21.58	1.30	2.98	23.87	1.43	3.75	25.02	1.50	4.66
		50	-	-	-	-	-	-	-	-	-	19.78	1.19	3.41	22.73	1.36	4.17	24.22	1.45	5.05
		60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1450	0	41.59	2.50	0.33	41.77	2.51	0.65	41.84	2.51	0.95	41.89	2.51	1.40	41.93	2.52	2.33	41.95	2.52	3.42
		5	40.68	2.44	0.66	41.28	2.48	0.97	41.49	2.49	1.26	41.64	2.50	1.69	41.77	2.51	2.58	41.84	2.51	3.63
		10	38.74	2.32	0.98	40.21	2.41	1.27	40.74	2.44	1.54	41.11	2.47	1.94	41.44	2.49	2.77	41.60	2.50	3.74
		15	36.15	2.17	1.38	38.80	2.33	1.71	39.73	2.38	2.03	40.40	2.42	2.50	40.99	2.46	3.47	41.28	2.48	4.62
		20	21.92	1.32	1.68	31.00	1.86	1.97	34.22	2.05	2.25	36.50	2.19	2.66	38.52	2.31	3.52	39.54	2.37	4.52
		25	18.03	1.08	1.99	28.87	1.73	2.25	32.72	1.96	2.51	35.44	2.13	2.88	37.85	2.27	3.65	39.06	2.34	4.55
		30	13.38	0.80	2.37	26.32	1.58	2.67	30.91	1.85	2.96	34.16	2.05	3.38	37.04	2.22	4.26	38.49	2.31	5.29
		40	7.68	0.46	3.16	23.20	1.39	3.56	28.71	1.72	3.94	32.60	1.96	4.50	36.06	2.16	5.66	37.80	2.27	7.03
		50	-	-	-	-	-	-	24.85	1.49	4.60	29.87	1.79	5.15	34.33	2.06	6.29	36.58	2.19	7.63
		60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2900	0	83.17	4.99	0.83	83.55	5.01	1.62	83.68	5.02	2.38	83.77	5.03	3.50	83.86	5.03	5.82	83.90	5.03	8.55
		5	81.36	4.88	1.50	82.55	4.95	2.27	82.98	4.98	3.02	83.28	5.00	4.11	83.54	5.01	6.38	83.68	5.02	9.05
		10	77.48	4.65	2.14	80.43	4.83	2.87	81.47	4.89	3.57	82.21	4.93	4.61	82.87	4.97	6.75	83.20	4.99	9.27
		15	72.30	4.34	2.80	77.59	4.66	3.50	79.47	4.77	4.18	80.80	4.85	5.17	81.97	4.92	7.24	82.57	4.95	9.67
		20	43.83	2.63	3.50	62.00	3.72	4.22	68.44	4.11	4.91	73.00	4.38	5.92	77.04	4.62	8.02	79.08	4.74	10.49
		25	36.07	2.16	4.17	57.75	3.46	4.86	65.44	3.93	5.53	70.87	4.25	6.52	75.70	4.54	8.57	78.13	4.69	10.97
		30	26.75	1.61	4.80	52.64	3.16	5.45	61.83	3.71	6.07	68.32	4.10	6.98	74.08	4.45	8.88	76.99	4.62	11.11
		40	15.37	0.92	6.28	46.41	2.78	7.02	57.42	3.45	7.74	65.20	3.91	8.79	72.11	4.33	10.97	75.59	4.54	13.54
		50	-	-	-	35.49	2.13	8.22	49.70	2.98	8.85	59.75	3.58	9.78	68.66	4.12	11.71	73.15	4.39	13.98
		60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Pump size	speed	ΔP	1.5ºE (6 cSt)			5ºE (37.4 cSt)			10ºE (76 cSt)			20ºE (152 cSt)			50ºE (380 cSt)			100ºE (760 cSt)		
	[rpm]	[bar]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]
SIZE - 5 / 5M [50 Hz]	960	0	17.74	1.06	0.17	18.05	1.08	0.34	18.16	1.09	0.50	18.23	1.09	0.73	18.30	1.10	1.21	18.34	1.10	1.78
		5	17.34	1.04	0.29	17.83	1.07	0.42	18.00	1.08	0.55	18.13	1.09	0.73	18.24	1.09	1.12	18.29	1.10	1.58
		10	16.50	0.99	0.43	17.37	1.04	0.55	17.68	1.06	0.67	17.90	1.07	0.84	18.09	1.09	1.20	18.19	1.09	1.63
		15	15.37	0.92	0.60	16.75	1.01	0.75	17.24	1.03	0.88	17.59	1.06	1.09	17.89	1.07	1.51	18.05	1.08	2.01
		20	9.18	0.55	0.73	13.36	0.80	0.86	14.84	0.89	0.98	15.89	0.95	1.16	16.82	1.01	1.53	17.29	1.04	1.96
		25	7.49	0.45	0.87	12.43	0.75	0.98	14.19	0.85	1.09	15.43	0.93	1.25	16.53	0.99	1.58	17.08	1.02	1.97
		30	5.46	0.33	1.04	11.32	0.68	1.17	13.40	0.80	1.29	14.87	0.89	1.47	16.18	0.97	1.85	16.83	1.01	2.29
		40	-	-	-	9.96	0.60	1.55	12.44	0.75	1.72	14.19	0.85	1.96	15.75	0.94	2.46	16.53	0.99	3.05
		50	-	-	-	-	-	-	10.76	0.65	2.01	13.00	0.78	2.24	15.00	0.90	2.73	16.00	0.96	3.31
		60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1450	0	26.79	1.61	0.26	27.26	1.64	0.51	27.42	1.65	0.75	27.54	1.65	1.10	27.65	1.66	1.83	27.70	1.66	2.69
		5	26.20	1.57	0.44	26.93	1.62	0.64	27.19	1.63	0.83	27.38	1.64	1.11	27.54	1.65	1.69	27.63	1.66	2.38
		10	24.92	1.50	0.65	26.23	1.57	0.83	26.70	1.60	1.01	27.03	1.62	1.27	27.32	1.64	1.82	27.47	1.65	2.46
		15	23.22	1.39	0.91	25.30	1.52	1.13	26.04	1.56	1.34	26.56	1.59	1.64	27.03	1.62	2.28	27.26	1.64	3.03
		20	13.86	0.83	1.11	20.18	1.21	1.30	22.42	1.34	1.48	24.00	1.44	1.75	25.41	1.52	2.31	26.11	1.57	2.96
		25	11.31	0.68	1.32	18.78	1.13	1.49	21.43	1.29	1.65	23.30	1.40	1.89	24.96	1.50	2.39	25.80	1.55	2.98
		30	8.24	0.49	1.57	17.10	1.03	1.76	20.24	1.21	1.95	22.46	1.35	2.22	24.43	1.47	2.79	25.43	1.53	3.46
		40	4.50	0.27	2.09	15.05	0.90	2.35	18.79	1.13	2.60	21.44	1.29	2.96	23.78	1.43	3.72	24.97	1.50	4.61
		50	-	-	-	11.46	0.69	2.79	16.25	0.98	3.03	19.64	1.18	3.39	22.65	1.36	4.13	24.17	1.45	4.99
		60	-	-	-	-	-	-	14.01	0.84	3.98	18.06	1.08	4.56	21.65	1.30	5.77	23.46	1.41	7.20
	2900	0	53.58	3.21	0.62	54.52	3.27	1.20	54.85	3.29	1.77	55.08	3.31	2.60	55.29	3.32	4.32	55.40	3.32	6.35
		5	52.39	3.14	0.99	53.86	3.23	1.50	54.39	3.26	1.99	54.76	3.29	2.70	55.09	3.31	4.19	55.25	3.32	5.95
		10	49.84	2.99	1.41	52.47	3.15	1.89	53.40	3.20	2.35	54.06	3.24	3.03	54.64	3.28	4.43	54.94	3.30	6.09
		15	46.43	2.79	1.85	50.60	3.04	2.31	52.08	3.12	2.75	53.13	3.19	3.40	54.05	3.24	4.75	54.52	3.27	6.34
		20	27.72	1.66	2.31	40.35	2.42	2.78	44.83	2.69	3.23	48.00	2.88	3.89	50.81	3.05	5.26	52.23	3.13	6.88
		25	22.61	1.36	2.75	37.55	2.25	3.21	42.85	2.57	3.64	46.60	2.80	4.29	49.93	3.00	5.62	51.60	3.10	7.19
		30	16.49	0.99	3.17	34.20	2.05	3.59	40.48	2.43	4.00	44.92	2.70	4.59	48.87	2.93	5.82	50.85	3.05	7.28
		40	9.00	0.54	4.15	30.10	1.81	4.63	37.58	2.25	5.10	42.87	2.57	5.78	47.57	2.85	7.20	49.94	3.00	8.87
		50	-	-	-	22.92	1.38	5.42	32.51	1.95	5.83	39.29	2.36	6.43	45.30	2.72	7.68	48.33	2.90	9.15
		60	-	-	-	16.58	0.99	6.47	28.03	1.68	6.95	36.12	2.17	7.64	43.30	2.60	9.09	46.91	2.81	10.79

Pump size	speed	ΔP	1,5ºE (6 cSt)			5ºE (37.4 cSt)			10ºE (76 cSt)			20ºE (152 cSt)			50ºE (380 cSt)			100ºE (760 cSt)		
	[rpm]	[bar]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]
SIZE - 10 / 2M [50 Hz]	960	2.5	75.68	4.54	0.344	77.00	4.62	0.35	77.50	4.65	0.45	78.00	4.68	0.60	78.40	4.70	0.90	78.50	4.71	1.18
		5	72.95	4.38	0.506	75.00	4.50	0.52	76.00	4.56	0.60	77.00	4.62	0.11	77.70	4.66	1.25	78.10	4.69	1.48
		10	59.84	3.59	0.912	63.00	3.78	0.96	67.50	4.05	1.03	71.00	4.26	1.55	74.00	4.44	1.90	75.50	4.53	2.13
		15	48.63	2.92	1.239	53.00	3.18	1.35	60.50	3.63	1.50	66.00	3.96	2.20	70.50	4.23	2.40	73.00	4.38	2.70
		20	-	-	-	40.00	2.40	1.84	55.00	3.30	1.90	62.00	3.72	2.80	68.00	4.08	2.96	71.50	4.29	3.15
		25	-	-	-	-	-	-	50.00	3.00	2.30	56.00	3.36	3.40	64.50	3.87	3.60	69.00	4.14	3.80
	1450	2.5	113.5	6.81	0.983	115.50	6.93	1.00	116.00	6.96	1.10	116.00	6.96	1.30	117.00	7.02	1.40	117.00	7.02	2.00
		5	110.4	6.62	1.313	113.50	6.81	1.35	115.00	6.90	1.47	115.80	6.95	1.62	116.50	6.99	1.90	116.80	7.01	2.40
		10	103.5	6.21	2.185	109.00	6.54	2.30	112.00	6.72	2.42	115.00	6.90	2.60	115.00	6.90	2.06	116.20	6.97	3.40
		15	95.43	5.73	3.854	104.00	6.24	4.20	108.00	6.48	3.40	112.00	6.72	3.60	114.00	6.84	3.80	116.00	6.96	4.30
		20	67.32	4.04	3.572	98.00	5.88	5.20	104.00	6.24	4.35	109.00	6.54	4.50	113.00	6.78	5.70	115.80	6.95	5.30
		25	51.78	3.11	3.733	86.00	5.16	6.20	102.00	6.12	5.35	106.00	6.36	5.50	112.00	6.72	6.70	115.50	6.93	6.20
		30	-	-	-	-	-	-	98.00	5.88	6.25	103.00	6.18	6.50	110.00	6.60	7.60	115.00	6.90	7.20
		35	-	-	-	-	-	-	-	-	-	100.00	6.00	7.50	109.00	6.54	8.65	114.50	6.87	8.10
	2900	2.5	231	13.86	2.457	235.00	14.10	2.50	237.00	14.22	3.00	238.00	14.28	3.00	238.00	14.28	4.80	238.00	14.28	6.80
		5	227.6	13.66	3.307	234.00	14.04	3.40	235.00	14.10	3.90	236.00	14.16	4.70	237.00	14.22	5.80	237.50	14.25	7.70
		10	212.8	12.77	3.135	224.00	13.44	3.30	228.00	13.68	5.90	230.00	13.80	6.60	234.00	14.04	7.70	235.00	14.10	9.55
		15	194.5	11.67	6.79	212.00	12.72	7.40	222.00	13.32	7.80	225.00	13.50	8.60	230.00	13.80	9.70	232.00	13.92	11.00
		20	140.1	8.41	6.319	204.00	12.24	9.20	216.00	12.96	9.70	221.00	13.26	10.50	226.00	13.56	11.60	230.00	13.80	13.50
		25	115.6	6.94	6.744	192.00	11.52	11.20	210.00	12.60	11.70	215.00	12.90	12.50	222.00	13.32	13.60	228.00	13.68	15.50
		30	-	-	-	-	-	-	205.00	12.30	13.50	210.00	12.60	14.30	218.00	13.08	15.60	225.00	13.50	17.40
		35	-	-	-	-	-	-	-	-	-	205.00	12.30	16.40	214.00	12.84	19.40	223.00	13.38	19.30
		40	-	-	-	-	-	-	-	-	-	-	-	-	208.00	12.48	19.50	215.00	12.90	21.20

Pump size	speed	ΔP	1,5ºE (6 cSt)			5ºE (37.4 cSt)			10ºE (76 cSt)			20ºE (152 cSt)			50ºE (380 cSt)			100ºE (760 cSt)		
	[rpm]	[bar]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]
SIZE - 10 / 3M [50 Hz]	960	0	-	3.16	0.47	55.37	3.32	0.93	56.32	3.38	1.36	56.98	3.42	2.00	57.57	3.45	3.33	18.34	1.10	4.89
		5	51.48	3.09	0.91	54.70	3.28	1.32	55.84	3.35	1.71	56.65	3.40	2.29	57.36	3.44	3.50	57.72	3.46	4.92
		10	48.84	2.93	1.36	53.25	3.20	1.74	54.82	3.29	2.10	55.92	3.36	2.64	56.90	3.41	3.75	57.40	3.44	5.06
		15	45.32	2.72	1.90	51.32	3.08	2.35	53.45	3.21	2.77	54.96	3.30	3.40	56.29	3.38	4.70	56.97	3.42	6.23
		20	25.96	1.56	2.32	40.72	2.44	2.71	45.95	2.76	3.08	49.66	2.98	3.62	52.94	3.18	4.75	54.60	3.28	6.08
		25	20.68	1.24	2.76	37.82	2.27	3.10	43.91	2.63	3.43	48.21	2.89	3.92	52.03	3.12	4.92	53.95	3.24	6.11
		30	14.34	0.86	3.28	34.35	2.06	3.67	41.45	2.49	4.05	46.47	2.79	4.60	50.93	3.06	5.74	53.17	3.19	7.09
		40	-	-	-	30.11	1.81	4.89	38.45	2.31	5.39	44.35	2.66	6.12	49.59	2.98	7.64	52.22	3.13	9.43
		50	-	-	-	-	-	-	33.20	1.99	6.30	40.64	2.44	7.01	47.24	2.83	8.48	50.56	3.03	10.21
		60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1450	0	79.62	4.78	0.71	83.64	5.02	1.39	85.06	5.10	2.04	86.07	5.16	3.00	86.96	5.22	4.99	87.41	5.24	7.33
		5	77.76	4.67	1.37	82.62	4.96	1.99	84.34	5.06	2.59	85.56	5.13	3.47	86.64	5.20	5.28	87.18	5.23	7.42
		10	73.77	4.43	2.05	80.43	4.83	2.62	82.80	4.97	3.17	84.47	5.07	3.98	85.95	5.16	5.66	86.70	5.20	7.64
		15	68.45	4.11	2.87	77.52	4.65	3.54	80.74	4.84	4.19	83.01	4.98	5.14	85.03	5.10	7.10	86.04	5.16	9.42
		20	39.20	2.35	3.51	61.50	3.69	4.09	69.41	4.16	4.65	75.00	4.50	5.47	79.96	4.80	7.18	82.46	4.95	9.18
		25	31.23	1.87	4.16	57.13	3.43	4.68	66.32	3.98	5.18	72.82	4.37	5.91	78.58	4.71	7.44	81.49	4.89	9.23
		30	21.66	1.30	4.96	51.89	3.11	5.55	62.61	3.76	6.11	70.19	4.21	6.95	76.92	4.62	8.67	80.31	4.82	10.71
		40	9.96	0.60	6.61	45.48	2.73	7.39	58.08	3.48	8.14	66.99	4.02	9.25	74.90	4.49	11.54	78.88	4.73	14.25
		50	-	-	-	34.27	2.06	8.79	50.15	3.01	9.52	61.38	3.68	10.59	71.35	4.28	12.81	76.37	4.58	15.42
		60	-	-	-	-	-	-	43.15	2.59	12.47	56.43	3.39	14.25	68.22	4.09	17.94	74.16	4.45	22.29
	2900	0	159.24	9.55	1.66	167.27	10.04	3.24	170.12	10.21	4.76	172.14	10.33	7.00	173.92	10.44	11.64	174.82	10.49	17.10
		5	155.52	9.33	3.11	165.23	9.91	4.69	168.68	10.12	6.21	171.12	10.27	8.45	173.28	10.40	13.09	174.37	10.46	18.55
		10	147.54	8.85	4.45	160.86	9.65	5.94	165.59	9.94	7.37	168.93	10.14	9.47	171.90	10.31	13.82	173.39	10.40	18.95
		15	136.90	8.21	5.83	155.04	9.30	7.26	161.47	9.69	8.62	166.02	9.96	10.63	170.06	10.20	14.80	172.09	10.33	19.71
		20	78.41	4.70	7.30	123.00	7.38	8.74	138.82	8.33	10.13	150.00	9.00	12.16	159.92	9.60	16.38	164.93	9.90	21.36
		25	62.46	3.75	8.70	114.26	6.86	10.09	132.64	7.96	11.43	145.63	8.74	13.40	157.16	9.43	17.48	162.97	9.78	22.29
		30	43.31	2.60	10.03	103.78	6.23	11.31	125.22	7.51	12.54	140.39	8.42	14.34	153.84	9.23	18.10	160.63	9.64	22.52
		40	19.92	1.19	13.12	90.96	5.46	14.58	116.16	6.97	15.99	133.98	8.04	18.06	149.79	8.99	22.36	157.76	9.47	27.41
		50	-	-	-	68.53	4.11	17.08	100.30	6.02	18.30	122.77	7.37	20.10	142.70	8.56	23.83	152.75	9.16	28.22
		60	-	-	-	48.73	2.92	20.38	86.30	5.18	21.80	112.86	6.77	23.88	136.44	8.19	28.21	148.32	8.90	33.29

Pump size	speed	ΔP	1,5ºE (6 cSt)			5ºE (37.4 cSt)			10ºE (76 cSt)			20ºE (152 cSt)			50ºE (380 cSt)			100ºE (760 cSt)		
	[rpm]	[bar]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]
SIZE - 10 / 5M [50 Hz]	960	0	39.03	2.34	0.43	39.09	2.35	0.43	39.11	2.35	0.63	39.12	2.35	0.93	39.13	2.35	1.55	39.14	2.35	2.27
		5	38.95	2.34	0.77	39.05	2.34	0.77	39.08	2.34	0.99	39.10	2.35	1.30	39.12	2.35	1.95	39.13	2.35	2.71
		10	34.21	2.05	1.10	36.45	2.19	1.10	37.24	2.23	1.31	37.80	2.27	1.63	38.30	2.30	2.29	38.55	2.31	3.06
		15	28.73	1.72	1.37	33.45	2.01	1.37	35.12	2.11	1.56	36.30	2.18	1.84	37.35	2.24	2.42	37.88	2.27	3.11
		20	21.79	1.31	1.70	29.65	1.78	1.70	32.43	1.95	1.89	34.40	2.06	2.18	36.15	2.17	2.78	37.03	2.22	3.48
		25	19.24	1.15	2.03	28.25	1.69	2.03	31.44	1.89	2.23	33.70	2.02	2.52	35.70	2.14	3.13	36.72	2.20	3.85
		30	11.57	0.69	2.38	24.05	1.44	2.38	28.47	1.71	2.60	31.60	1.90	2.92	34.38	2.06	3.58	35.78	2.15	4.36
		40	-	-	-	12.05	0.72	2.93	19.99	1.20	3.10	25.60	1.54	3.35	30.58	1.83	3.87	33.09	1.99	4.49
		50	-	-	-	-	-	-	9.52	0.57	3.85	18.20	1.09	4.15	25.90	1.55	4.78	29.78	1.79	5.52
		60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1450	0	56.99	3.42	0.44	57.96	3.48	0.87	58.31	3.50	1.27	58.55	3.51	1.87	58.77	3.53	3.11	58.88	3.53	4.57
		5	56.80	3.41	0.93	57.86	3.47	1.36	58.23	3.49	1.77	58.50	3.51	2.37	58.74	3.52	3.62	58.85	3.53	5.09
		10	53.15	3.19	1.38	55.86	3.35	1.77	56.82	3.41	2.15	57.50	3.45	2.71	58.10	3.49	3.87	58.41	3.50	5.23
		15	41.47	2.49	1.90	49.46	2.97	2.34	52.30	3.14	2.75	54.30	3.26	3.36	56.08	3.36	4.63	56.98	3.42	6.12
		20	35.99	2.16	2.39	46.46	2.79	2.82	50.17	3.01	3.24	52.80	3.17	3.85	55.13	3.31	5.12	56.30	3.38	6.62
		25	29.78	1.79	2.83	43.06	2.58	3.22	47.77	2.87	3.60	51.10	3.07	4.15	54.06	3.24	5.30	55.54	3.33	6.65
		30	20.29	1.22	3.35	37.86	2.27	3.78	44.09	2.65	4.19	48.50	2.91	4.80	52.41	3.14	6.06	54.38	3.26	7.54
		40	-	-	-	24.58	1.47	4.75	34.70	2.08	5.17	41.86	2.51	5.78	48.21	2.89	7.05	51.41	3.08	8.54
		50	-	-	-	-	-	-	31.51	1.89	6.19	39.60	2.38	6.83	46.78	2.81	8.15	50.40	3.02	9.71
		60	-	-	-	-	-	-	-	-	-	31.60	1.90	7.98	41.72	2.50	9.42	46.82	2.81	11.12
	2900	0	117.99	7.08	2.48	118.12	7.09	2.48	118.17	7.09	3.64	118.20	7.09	5.35	118.23	7.09	8.90	118.24	7.09	13.07
		5	115.43	6.93	3.21	116.72	7.00	3.21	117.18	7.03	4.26	117.50	7.05	5.80	117.79	7.07	9.00	117.93	7.08	12.77
		10	109.95	6.60	4.05	113.72	6.82	4.05	115.06	6.90	5.04	116.00	6.96	6.50	116.84	7.01	9.53	117.26	7.04	13.09
		15	102.65	6.16	4.94	109.72	6.58	4.94	112.23	6.73	5.90	114.00	6.84	7.30	115.57	6.93	10.22	116.37	6.98	13.65
		20	62.49	3.75	5.94	87.72	5.26	5.94	96.67	5.80	6.92	103.00	6.18	8.35	108.62	6.52	11.32	111.45	6.69	14.82
		25	51.53	3.09	6.86	81.72	4.90	6.86	92.43	5.55	7.81	100.00	6.00	9.20	106.72	6.40	12.09	110.10	6.61	15.50
		30	38.39	2.30	7.68	74.52	4.47	7.68	87.34	5.24	8.56	96.40	5.78	9.85	104.44	6.27	12.53	108.49	6.51	15.69
		40	22.32	1.34	8.84	65.72	3.94	9.90	81.11	4.87	10.91	92.00	5.52	12.40	101.66	6.10	15.49	106.53	6.39	19.13
		50	-	-	-	-	-	-	70.23	4.21	12.48	84.30	5.06	13.80	96.79	5.81	16.54	103.08	6.19	19.76
		60	-	-	-	-	-	-	-	-	-	77.50	4.65	16.40	92.49	5.55	19.58	100.04	6.00	23.32

Pump size	speed	ΔP	1,5ºE (6 cSt)			5ºE (37.4 cSt)			10ºE (76 cSt)			20ºE (152 cSt)			50ºE (380 cSt)			100ºE (760 cSt)		
	[rpm]	[bar]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]
SIZE - 15 / 3M [50 Hz]	960	0	130.73	7.84	1.10	134.48	8.07	2.15	135.82	8.15	3.15	136.76	8.21	4.63	137.60	8.26	7.71	18.34	1.10	11.32
		5	127.77	7.67	2.17	132.86	7.97	3.16	134.67	8.08	4.11	135.95	8.16	5.51	137.08	8.22	8.41	137.65	8.26	11.82
		10	121.43	7.29	3.24	129.39	7.76	4.15	132.22	7.93	5.03	134.21	8.05	6.33	135.99	8.16	9.01	136.88	8.21	12.17
		15	112.98	6.78	4.54	124.76	7.49	5.61	128.94	7.74	6.64	131.90	7.91	8.16	134.52	8.07	11.31	135.84	8.15	15.02
		20	66.51	3.99	5.53	99.31	5.96	6.47	110.95	6.66	7.37	119.17	7.15	8.69	126.47	7.59	11.44	130.15	7.81	14.67
		25	53.83	3.23	6.56	92.37	5.54	7.40	106.04	6.36	8.21	115.70	6.94	9.40	124.28	7.46	11.86	128.60	7.72	14.76
		30	38.62	2.32	7.82	84.04	5.04	8.77	100.15	6.01	9.69	111.54	6.69	11.04	121.64	7.30	13.84	126.74	7.60	17.13
		40	-	-	-	73.86	4.43	11.69	92.95	5.58	12.91	106.45	6.39	14.70	118.42	7.11	18.41	124.46	7.47	22.79
		50	-	-	-	-	-	-	80.35	4.82	15.08	97.54	5.85	16.82	112.79	6.77	20.44	120.48	7.23	24.70
		60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1450	0	197.45	11.85	1.66	203.13	12.19	3.24	205.14	12.31	4.76	206.56	12.39	7.00	207.83	12.47	11.64	208.46	12.51	17.10
		5	192.98	11.58	3.28	200.68	12.04	4.78	203.41	12.20	6.21	205.34	12.32	8.32	207.05	12.42	12.70	207.92	12.47	17.85
		10	183.41	11.00	4.89	195.44	11.73	6.27	199.70	11.98	7.60	202.72	12.16	9.55	205.39	12.32	13.61	206.74	12.40	18.39
		15	170.65	10.24	6.85	188.45	11.31	8.48	194.76	11.69	10.04	199.22	11.95	12.33	203.18	12.19	17.09	205.18	12.31	22.68
		20	100.46	6.03	8.35	150.00	9.00	9.77	167.57	10.05	11.13	180.00	10.80	13.13	191.03	11.46	17.27	196.58	11.80	22.16
		25	81.31	4.88	9.92	139.51	8.37	11.18	160.16	9.61	12.40	174.76	10.49	14.19	187.71	11.26	17.91	194.24	11.65	22.29
		30	58.34	3.50	11.81	126.93	7.62	13.25	151.26	9.08	14.64	168.47	10.11	16.67	183.73	11.02	20.90	191.43	11.49	25.87
		40	30.26	1.82	15.74	111.55	6.69	17.66	140.39	8.42	19.50	160.78	9.65	22.20	178.87	10.73	27.81	187.99	11.28	34.42
		50	-	-	-	84.64	5.08	20.99	121.36	7.28	22.78	147.32	8.84	25.41	170.36	10.22	30.87	181.97	10.92	37.30
		60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2900	0	394.90	23.69	4.27	406.25	24.38	8.34	410.28	24.62	12.25	413.13	24.79	18.00	415.65	24.94	29.93	416.93	25.02	43.97
		5	385.97	23.16	7.43	401.36	24.08	11.23	406.82	24.41	14.89	410.68	24.64	20.27	414.11	24.85	31.43	415.83	24.95	44.57
		10	366.82	22.01	10.63	390.87	23.45	14.21	399.40	23.96	17.66	405.44	24.33	22.72	410.79	24.65	33.23	413.49	24.81	45.59
		15	341.30	20.48	13.91	376.89	22.61	17.35	389.52	23.37	20.66	398.45	23.91	25.51	406.37	24.38	35.60	410.36	24.62	47.47
		20	200.91	12.05	17.40	300.00	18.00	20.89	335.15	20.11	24.25	360.00	21.60	29.18	382.05	22.92	39.43	393.17	23.59	51.48
		25	162.62	9.76	20.73	279.03	16.74	24.11	320.32	19.22	27.37	349.51	20.97	32.16	375.42	22.53	42.09	388.48	23.31	53.78
		30	116.68	7.00	23.88	253.86	15.23	27.01	302.52	18.15	30.01	336.93	20.22	34.43	367.46	22.05	43.59	382.85	22.97	54.38
		40	60.52	3.63	31.24	223.11	13.39	34.82	280.78	16.85	38.27	321.55	19.29	43.34	357.74	21.46	53.86	375.97	22.56	66.24
		50	-	-	-	169.28	10.16	40.77	242.72	14.56	43.79	294.64	17.68	48.23	340.72	20.44	57.45	363.94	21.84	68.29
		60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Pump size	speed	ΔP	1,5ºE (6 cSt)			5ºE (37.4 cSt)			10ºE (76 cSt)			20ºE (152 cSt)			50ºE (380 cSt)			100ºE (760 cSt)		
	[rpm]	[bar]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]
SIZE - 20 / 2M [50 Hz]	960	2.5	270	16.22	1.67	275	16.50	1.70	280	16.80	1.75	285	17.10	1.95	289	17.34	2.50	290	17.40	3.50
		5	258	15.46	2.72	265	15.90	2.80	273	16.38	3.10	280	16.80	3.30	285	17.10	3.80	288	17.28	4.50
		10	214	12.82	4.84	225	13.50	5.10	245	14.70	5.50	265	15.90	5.70	273	16.38	6.20	279	16.74	6.80
		15	-	-	-	-	-	-	215	12.90	7.80	233	13.98	9.80	250	15.00	9.90	253	15.18	10.20
		20	-	-	-	-	-	-	-	-	-	210	12.60	16.60	225	13.50	17.20	230	13.80	18.30
	1450	2.5	413	24.77	2.56	420	25.20	2.60	426	25.56	3.60	430	25.80	4.00	434	26.04	5.50	435	26.10	6.60
		5	399	23.93	4.57	410	24.60	4.70	419	25.14	5.20	425	25.50	5.60	430	25.80	7.00	433	25.98	8.40
		10	351	21.09	7.98	370	22.20	8.40	390	23.40	8.80	405	24.30	9.30	418	25.08	10.80	424	25.44	12.00
		15	294	17.62	10.37	320	19.20	11.30	370	22.20	12.20	390	23.40	13.00	408	24.48	14.00	417	25.02	15.50
		20	-	-	-	260	15.60	15.80	350	21.00	16.20	350	21.00	16.60	383	22.98	17.80	400	24.00	19.20
		25	-	-	-	-	-	-	340	20.40	19.40	345	20.70	20.90	360	21.60	22.60	380	22.80	23.80
		30	-	-	-	-	-	-	-	-	-	290	29.40	29.40	340	30.40	30.40	353	31.20	31.20

Pump size	speed	ΔP	1,5ºE (6 cSt)			5ºE (37.4 cSt)			10ºE (76 cSt)			20ºE (152 cSt)			50ºE (380 cSt)			100ºE (760 cSt)		
	[rpm]	[bar]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]
SIZE - 45 / 2M [50 Hz]	960	2.5	451	27	3	459	28	3	462	28	3	468	28	3	469	28	4	471	28	5
		5	413	25	5	425	26	5	438	26	6	451	27	6	459	28	7	463	28	8
		10	355	21	9	374	22	9	404	24	10	468	26	10	442	27	11	451	27	12
		15	-	-	-	-	-	-	378	23	16	400	24	17	425	26	19	438	26	21
	1450	2.5	760	46	5	774	46	5	778	47	6	782	47	6	785	47	9	786	47	11
		5	719	43	9	740	44	9	755	45	9	765	46	10	774	46	12	779	47	15
		10	654	39	14	689	41	15	718	43	16	740	44	17	758	45	19	768	46	22
		15	-	-	-	621	37	22	659	40	23	697	42	24	731	44	26	748	45	28
		20	-	-	-	-	-	-	612	37	29	655	39	34	689	41	36	723	43	38

Pump size	speed	ΔP	1,5ºE (6 cSt)			5ºE (37.4 cSt)			10ºE (76 cSt)			20ºE (152 cSt)			50ºE (380 cSt)			100ºE (760 cSt)		
	[rpm]	[bar]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]
SIZE - 50 / 2M [50 Hz]	960	2.5	531	31.84	3.15	540	32.40	3.20	544	32.64	3.60	550	33.00	3.80	552	33.12	5.00	554	33.24	6.00
		5	486	29.18	6.13	500	30.00	6.30	515	30.90	6.70	530	31.80	7.00	540	32.40	8.00	545	32.70	9.20
		10	418	25.08	10.45	440	26.40	11.00	475	28.50	11.50	550	33.00	12.00	520	31.20	13.00	530	31.80	14.00
		15	-	-	-	-	-	-	445	26.70	19.40	470	28.20	20.30	500	30.00	22.00	515	30.90	25.00
	1450	2.5	894	53.66	5.70	910	54.60	5.80	915	54.90	6.80	920	55.20	7.50	923	55.38	10.80	925	55.50	13.50
		5	846	50.77	10.02	870	52.20	10.30	888	53.28	11.00	900	54.00	12.20	911	54.66	14.40	916	54.96	17.70
		10	769	46.16	16.72	810	48.60	17.60	845	50.70	19.20	870	52.20	20.00	892	53.52	22.00	903	54.18	25.50
		15	-	-	-	730	43.80	26.40	775	46.50	27.50	820	49.20	28.60	860	51.60	30.00	880	52.80	32.50
		20	-	-	-	-	-	-	720	43.20	33.80	770	46.20	40.20	810	48.60	42.30	850	51.00	44.30

Pump size	speed	ΔP	1,5ºE (6 cSt)			5ºE (37.4 cSt)			10ºE (76 cSt)			20ºE (152 cSt)			50ºE (380 cSt)			100ºE (760 cSt)		
	[rpm]	[bar]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]	[l/min]	[m³/h]	[kW]
SIZE - 100 / 2M [50 Hz]	960	2.5	1,091	65.46	5.41	1110	66.60	5.50	1120	67.20	6.20	1130	67.80	7.00	1140	68.40	9.00	1140	68.40	11.60
		5	1,002	60.11	10.70	1030	61.80	11.00	1075	64.50	11.80	1100	66.00	12.50	1120	67.20	14.70	1130	67.80	17.00
		10	912	54.71	19.00	960	57.60	20.00	1020	61.20	21.00	1060	63.60	22.00	1095	65.70	24.00	1110	66.60	26.00
	1450	2.5	1,632	97.89	11.11	1660	99.60	11.30	1680	100.80	12.50	1690	101.40	14.00	1700	102.00	19.00	1705	102.30	24.50
		5	1,556	93.37	18.19	1600	96.00	18.70	1635	98.10	20.00	1660	99.60	21.50	1680	100.80	26.40	1690	101.40	32.00
		10	1,434	86.06	31.35	1510	90.60	33.00	1580	94.80	34.00	1620	97.20	38.00	1657	99.42	40.00	1675	100.50	46.00
		15	-	-	-	1400	84.00	47.50	1570	94.20	48.30	1560	93.60	50.00	1620	97.20	55.00	1650	99.00	60.00

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