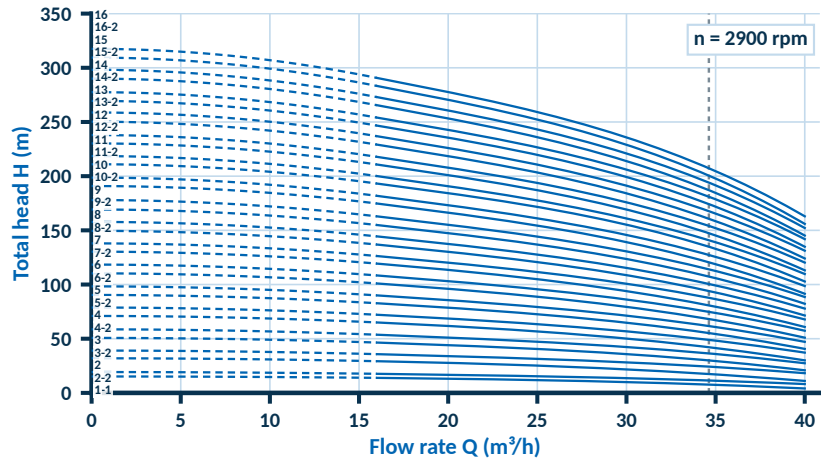


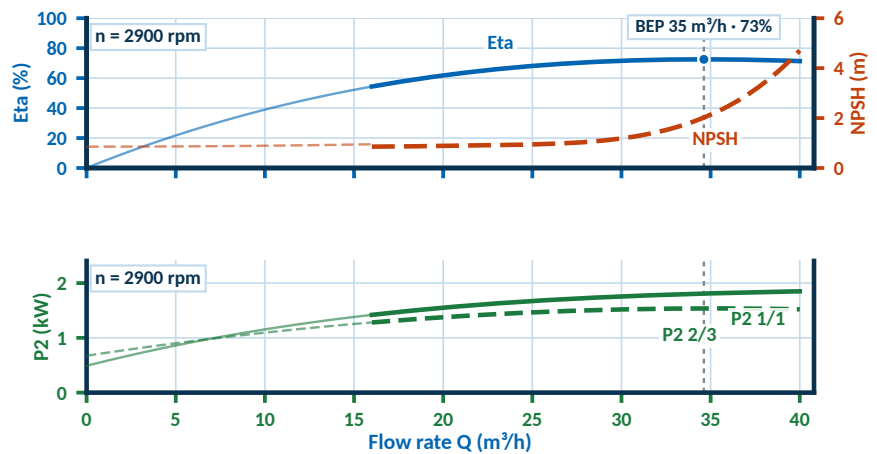
SAR 32 Vertical Multistage Centrifugal Pump



PERFORMANCE CHART AT N=2900 RPM



Solid line — published flow range. Broken line — extrapolated to shutoff at zero flow.



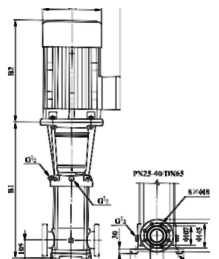
Efficiency and NPSH required (upper), absorbed power P2 (lower), digitized from the manufacturer curve sheet. P2 is the input power per stage.

Typical Applications

- Water supply: raw-water transfer, filtration and boosting duties in waterworks, district distribution, high-rise pressure boosting and packaged booster sets.
- Industrial pressure boosting: process water systems, washing and cleaning plant and high-pressure flushing systems.
- Industrial liquid transfer: cooling and air-conditioning circuits, boiler feed and condensate systems, machine-tool coolant supply, and mild acids and alkalis.
- Water treatment: ultra-filtration, reverse osmosis, distillation, separators and swimming-pool circulation.
- Irrigation: field and farm irrigation, sprinkler systems and drip irrigation.

Operating Conditions

- Thin, clean, non-flammable and non-explosive liquids, free of solid particles or fibres.
- Liquid temperature: standard version -15 °C to +70 °C; hot-water version +70 °C to +120 °C.
- Maximum ambient temperature +40 °C; maximum installation altitude 1000 m.
- Maximum pressure generated ranges from 1.4 bar on SAR 32-1-1 to 28.6 bar on SAR 32-16, model by model — see Technical Data. Suction and discharge flanges to PN25-40/DN65.
- Suction and discharge ports are in line and of equal bore, allowing the pump to be installed directly in a straight pipe run.
- Pump head and motor are coupled by a rigid spacer coupling, so the mechanical seal can be changed without disturbing the pipework.
- Non-self-priming: the pump must be fully primed and the required NPSH maintained at the inlet to avoid cavitation.
- Above +40 °C ambient or above 1000 m altitude the motor output is derated and a larger motor frame must be selected.
- Motor totally enclosed, fan-cooled, protection IP55, insulation class F.
- Optional intelligent controller protects against dry running, phase failure and overload.



Technical Data

Technical data for all 32 models in the SAR 32 series is tabulated on pages 2 to 3.



SAR 32

Technical Data

Model	Motor P2		Supply / voltage range	Current at 50 Hz (A)			Motor eff. (%)	Rated flow Q (m³/h)	Head at rated Q (m)	Max. head (m)	Max. flow (m³/h)	Speed (rpm)	Max. press. (bar)	DN	Dimensions (mm)					Weight (kg)
	kW	HP		Full load In	Start DOL Ist	Soft start Iss									B1	B2	B1+B2	D1	D2	
SAR 32-1-1	1.5	2	1~ 220-240 V	9.5	43	29	72.0	32	9	14	40	2900	1.4	DN65	505	290	795	190	155	64
SAR 32-1	2.2	3	1~ 220-240 V	14	61	41	74.0	32	13	18	40	2900	1.8	DN65	505	290	795	190	155	68
SAR 32-2-2	3	4	3~ 380-415 V	5.9	38	18	85.8	32	20	29	40	2900	2.8	DN65	575	345	920	197	165	77
SAR 32-2	4	5.5	3~ 380-415 V	7.7	50	23	86.8	32	27	36	40	2900	3.5	DN65	575	355	930	230	180	85
SAR 32-3-2	5.5	7.5	3~ 380-415 V	11	68	32	87.8	32	33	47	40	2900	4.6	DN65	645	390	1035	260	208	100
SAR 32-3	5.5	7.5	3~ 380-415 V	11	68	32	87.8	32	40	54	40	2900	5.3	DN65	645	390	1035	260	208	100
SAR 32-4-2	7.5	10	3~ 380-415 V	14	91	42	88.5	32	46	65	40	2900	6.4	DN65	715	390	1105	260	208	109
SAR 32-4	7.5	10	3~ 380-415 V	14	91	42	88.5	32	53	72	40	2900	7.1	DN65	715	390	1105	260	208	109
SAR 32-5-2	11	15	3~ 380-415 V	20	142	61	89.7	32	60	83	40	2900	8.1	DN65	890	500	1390	330	255	181
SAR 32-5	11	15	3~ 380-415 V	20	142	61	89.7	32	67	90	40	2900	8.8	DN65	890	500	1390	330	255	181
SAR 32-6-2	11	15	3~ 380-415 V	20	142	61	89.7	32	74	101	40	2900	9.9	DN65	960	500	1460	330	255	185
SAR 32-6	11	15	3~ 380-415 V	20	142	61	89.7	32	81	108	40	2900	10.6	DN65	960	500	1460	330	255	185
SAR 32-7-2	15	20	3~ 380-415 V	27	190	82	90.5	32	88	119	40	2900	11.7	DN65	1030	500	1530	330	255	199
SAR 32-7	15	20	3~ 380-415 V	27	190	82	90.5	32	95	126	40	2900	12.4	DN65	1030	500	1530	330	255	199
SAR 32-8-2	15	20	3~ 380-415 V	27	190	82	90.5	32	102	136	40	2900	13.3	DN65	1100	500	1600	330	255	203
SAR 32-8	15	20	3~ 380-415 V	27	190	82	90.5	32	109	144	40	2900	14.1	DN65	1100	500	1600	330	255	203

The stage figure in the model name is the actual number of stages.

Maximum pressure is that generated by the pump at its maximum head; the sum of inlet pressure and pump pressure must not exceed the casing rating. Currents are calculated nominal values for a 2-pole IE3 motor (single phase 230 V, three phase 400 V); In is full-load running current, Ist direct-on-line starting current and Iss the current with a soft starter ramping at 3 × In. **Confirm against the motor nameplate before sizing cable, starter or overload.** A soft starter limits inrush; it does not raise running efficiency.

Motors up to and including 2.2 kW are single-phase as standard, 3 kW and above three-phase; 3 × 200-220 V and other supply voltages to special order.



SAR 32

Technical Data (continued)

Model	Motor P2		Supply / voltage range	Current at 50 Hz (A)			Motor eff. (%)	Rated flow Q (m³/h)	Head at rated Q (m)	Max. head (m)	Max. flow (m³/h)	Speed (rpm)	Max. press. (bar)	DN	Dimensions (mm)					Weight (kg)
	kW	HP		Full load In	Start DOL Ist	Soft start Iss									B1	B2	B1+B2	D1	D2	
SAR 32-9-2	18.5	25	3~ 380-415 V	33	233	100	91.0	32	117	154	40	2900	15.1	DN65	1170	550	1720	330	255	222
SAR 32-9	18.5	25	3~ 380-415 V	33	233	100	91.0	32	124	162	40	2900	15.9	DN65	1170	550	1720	330	255	222
SAR 32-10-2	18.5	25	3~ 380-415 V	33	233	100	91.0	32	131	175	40	2900	17.2	DN65	1240	550	1790	330	255	227
SAR 32-10	18.5	25	3~ 380-415 V	33	233	100	91.0	32	138	182	40	2900	17.8	DN65	1240	550	1790	330	255	227
SAR 32-11-2	22	30	3~ 380-415 V	40	277	119	91.3	32	148	193	40	2900	18.9	DN65	1310	575	1885	360	285	272
SAR 32-11	22	30	3~ 380-415 V	40	277	119	91.3	32	153	200	40	2900	19.6	DN65	1310	575	1885	360	285	272
SAR 32-12-2	22	30	3~ 380-415 V	40	277	119	91.3	32	160	211	40	2900	20.7	DN65	1380	575	1955	360	285	276
SAR 32-12	22	30	3~ 380-415 V	40	277	119	91.3	32	167	218	40	2900	21.4	DN65	1380	575	1955	360	285	276
SAR 32-13-2	30	40	3~ 380-415 V	53	374	160	92.0	32	174	230	40	2900	22.5	DN65	1450	650	2100	400	310	337
SAR 32-13	30	40	3~ 380-415 V	53	374	160	92.0	32	181	237	40	2900	23.2	DN65	1450	650	2100	400	310	337
SAR 32-14-2	30	40	3~ 380-415 V	53	374	160	92.0	32	189	247	40	2900	24.2	DN65	1520	650	2170	400	310	341
SAR 32-14	30	40	3~ 380-415 V	53	374	160	92.0	32	196	255	40	2900	25.0	DN65	1520	650	2170	400	310	341
SAR 32-15-2	30	40	3~ 380-415 V	53	374	160	92.0	32	203	266	40	2900	26.1	DN65	1590	650	2240	400	310	345
SAR 32-15	30	40	3~ 380-415 V	53	374	160	92.0	32	210	274	40	2900	26.9	DN65	1590	650	2240	400	310	345
SAR 32-16-2	30	40	3~ 380-415 V	53	374	160	92.0	32	218	284	40	2900	27.8	DN65	1660	650	2310	400	310	350
SAR 32-16	30	40	3~ 380-415 V	53	374	160	92.0	32	225	292	40	2900	28.6	DN65	1660	650	2310	400	310	350

The stage figure in the model name is the actual number of stages.

Maximum pressure is that generated by the pump at its maximum head; the sum of inlet pressure and pump pressure must not exceed the casing rating. Currents are calculated nominal values for a 2-pole IE3 motor (single phase 230 V, three phase 400 V); In is full-load running current, Ist direct-on-line starting current and Iss the current with a soft starter ramping at 3 × In. **Confirm against the motor nameplate before sizing cable, starter or overload.** A soft starter limits inrush; it does not raise running efficiency.

Motors up to and including 2.2 kW are single-phase as standard, 3 kW and above three-phase; 3 × 200-220 V and other supply voltages to special order.

Model Designation

SAR F 32 – 3 – 2

SAR	Light vertical multistage centrifugal pump
F	Wetted parts in stainless steel AISI 304 or 316L. Omitted on the standard cast-iron construction, which is designated SAR.
32	Rated flow in m³/h — identifies the series
3	Number of stages — the actual count
2	Number of reduced-diameter impellers. Omitted when every impeller is full diameter.

Reduced-Diameter Impellers

Reduced-Diameter Impellers

Stages come in whole numbers, so a plain stage count steps the head up in coarse jumps. A duty falling between two steps would otherwise be met by taking the next size up and throttling the surplus away in a valve, wasting energy for the life of the pump.

Fitting one or two impellers of reduced outside diameter trims the head between those steps. Head varies roughly with the square of impeller diameter and absorbed power with the cube, so a trimmed impeller lowers the curve while *reducing* shaft power — the duty is met on a smaller motor rather than by wasting head across a valve. The suffix gives how many impellers are trimmed.



SAR 32

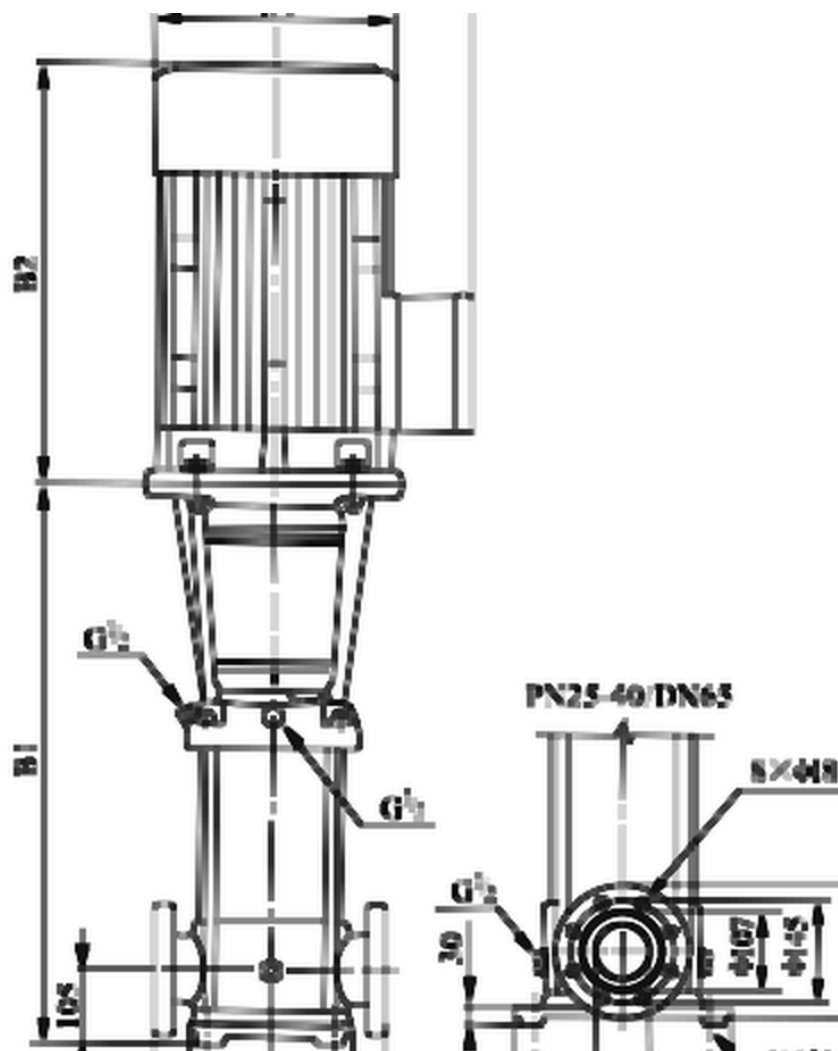
Performance Table

Total head H (m) against flow rate Q (m³/h) at 2900 rpm, tested on clean water at 20 °C (kinematic viscosity 1 mm²/s, air-free). Tolerances to ISO 9906, Annex A.

Model	Motor			Q (m³/h)						
	kW	HP	Supply / voltage range	16	20	24	28	32	36	40
SAR 32-1-1	1.5	2	1~ 220-240 V	14	13	12	11	9	7	4
SAR 32-1	2.2	3	1~ 220-240 V	18	17	15	14	13	11	8
SAR 32-2-2	3	4	3~ 380-415 V	29	28	26	23	20	16	11
SAR 32-2	4	5.5	3~ 380-415 V	36	34	32	29	27	23	18
SAR 32-3-2	5.5	7.5	3~ 380-415 V	47	44	41	38	33	28	21
SAR 32-3	5.5	7.5	3~ 380-415 V	54	51	48	44	40	35	27
SAR 32-4-2	7.5	10	3~ 380-415 V	65	62	58	53	46	40	30
SAR 32-4	7.5	10	3~ 380-415 V	72	69	65	59	53	47	37
SAR 32-5-2	11	15	3~ 380-415 V	83	79	74	68	60	52	41
SAR 32-5	11	15	3~ 380-415 V	90	86	81	74	67	59	47
SAR 32-6-2	11	15	3~ 380-415 V	101	97	90	83	74	65	51
SAR 32-6	11	15	3~ 380-415 V	108	104	97	90	81	72	57
SAR 32-7-2	15	20	3~ 380-415 V	119	114	107	98	88	78	60
SAR 32-7	15	20	3~ 380-415 V	126	121	113	105	95	85	67
SAR 32-8-2	15	20	3~ 380-415 V	136	131	123	114	102	90	71
SAR 32-8	15	20	3~ 380-415 V	144	138	130	120	109	97	77
SAR 32-9-2	18.5	25	3~ 380-415 V	154	148	140	129	117	102	82
SAR 32-9	18.5	25	3~ 380-415 V	162	156	147	136	124	109	88
SAR 32-10-2	18.5	25	3~ 380-415 V	175	166	157	146	131	115	91
SAR 32-10	18.5	25	3~ 380-415 V	182	173	164	152	138	122	98
SAR 32-11-2	22	30	3~ 380-415 V	193	184	173	164	148	128	102
SAR 32-11	22	30	3~ 380-415 V	200	191	180	168	153	135	109
SAR 32-12-2	22	30	3~ 380-415 V	211	201	189	178	160	140	113
SAR 32-12	22	30	3~ 380-415 V	218	208	196	184	167	147	120
SAR 32-13-2	30	40	3~ 380-415 V	230	218	206	193	174	153	124
SAR 32-13	30	40	3~ 380-415 V	237	225	215	200	181	160	131
SAR 32-14-2	30	40	3~ 380-415 V	247	235	222	210	189	165	135
SAR 32-14	30	40	3~ 380-415 V	255	242	229	216	196	172	142
SAR 32-15-2	30	40	3~ 380-415 V	266	253	239	224	203	178	145
SAR 32-15	30	40	3~ 380-415 V	274	260	246	231	210	185	152
SAR 32-16-2	30	40	3~ 380-415 V	284	270	255	240	218	190	156
SAR 32-16	30	40	3~ 380-415 V	292	277	262	246	225	197	163

Select the duty point within the published flow range. Operating far to the right of the range overloads the motor; operating far to the left causes heat build-up in the pump. The stainless-steel construction is designated SARF and has identical hydraulic performance.

SAR 32 Dimensions and Connections



B1 base to motor flange

B2 motor height

B1+B2 overall height

D1 across motor frame

D2 across base

All dimensions in mm. Suction and discharge are in line and of equal bore, DN65, flanges to PN25-40/DN65.

Per-model dimensions and weights are tabulated in the Technical Data pages. Single-phase and flameproof motors alter the external dimensions.