



SR 4410, SR 4430, SR 4460, 50 Hz

Technical Specification

Product Description

Usage

Mixer with two blade propeller and reduction gear. Intended for mixing liquid and sludge containing fibres and solids where very high thrust in relation to consumed power is wanted. The mixer is designed to be operated completely immersed in the liquid.

Denomination

Standard version	Explosion proof version
4410.011	4410.090
4430.010	4430.090
4460.010	4460.090

Installation

Tripod guide bar system, 100×100 mm (4×4 inches), or 150×100 mm (4×6 inches)

Application limits

Feature	Description
Liquid temperature	<ul style="list-style-type: none"> Maximum 40°C, (104°F) Optional configuration up to 60°C, (140°F).
Liquid viscosity	Maximum 5000 cp
pH	6 - 11
Depth of immersion	Maximum 20 m (65 ft)

Motor data

Feature	Description
Motor type	4410: Squirrel-cage 4- or 6-pole induction motor 4430: Squirrel-cage 2- or 4-pole induction motor 4460: Squirrel-cage 2- or 4-pole induction motor
Frequency	50 Hz
Supply	3-phase
Starting method	<ul style="list-style-type: none"> Direct on-line Star-delta VFD
Maximum starts per hour	30 evenly-spaced starts per hour
Voltage variation	<ul style="list-style-type: none"> Continuously running: Maximum ±5% Intermittently running: Maximum ±10%
Voltage imbalance between the phases	Maximum 2%
Stator insulation	In accordance with class H (180°C, 356°F), trickle impregnated

Cables

- SUBCAB® heavy-duty submersible cable

Monitoring equipment

- Thermal contacts opening at 125°C, (257°F)
- Leakage sensor in stator housing (FLS), optional
- Leakage sensor in oil housing (CLS), optional

Materials

Item	Material
Gear housing	Cast iron, ASTM 35B
Stator housing	Cast iron, ASTM 35B
Oil housing	Cast iron, ASTM 35B
Shaft	Stainless steel, ASTM/AISI 431
Propeller	Reinforced polyurethane plastic
Hub	Cast iron, ASTM 35B
Lifting device	Stainless steel ASTM 316L
Stand unit	Stainless steel ASTM 316L
Oil, oil housing	Paraffin oil ISO VG32
Oil, gear housing	<ul style="list-style-type: none"> • Mineral oil with additives, viscosity close to ISO VG 220 • 4460 optional configuration up to 60°C (140°F): Mineral oil with additives, viscosity close to ISO VG 680
O-rings	Nitrile rubber

Surface treatment

Finishing coat:

- Two pack oxiran ester paint
- Optional version: Corrosion resistant primer
- Optional version: Wear resistant epoxy paint

Color: Navy Grey on cast iron parts

Mechanical face seals

Inner seal	Outer seal
Lip seal	Corrosion resistant cemented carbide (WCCR) / WCCR

Hydraulic unit

Thin-sectioned, non-clogging propeller with double-curved blades made of reinforced polyurethane plastic. Cast iron hub.

Dimensions and weight

See the dimensional drawing.

Options and accessories

- Installation systems
- Lifting equipment
- Special cables
- Zinc anodes
- Electrical equipment such as control panels, monitoring equipment, variable frequency drives

Motor Rating

Table 1: 400V, 50 Hz, 3-phase

Product	Propeller diameter, maximum mm	Rotations per minute, rpm	Poles	Rated Power, kW	Rated Current, A	Starting Current, A	Power factor $\cos\varphi$
4410	2500	1385	4	2.3	5.5	24	0.82
4410	2500	930	6	0.9	2.7	10	0.67
4430	2500	1420	4	4.3	9.1	38	0.84
4430	1600	2875	2	4.4	8.5	65	0.92
4460	2500	1455	4	5.7	12	78	0.84
4460	1400	2914	2	7.5	14	114	0.91

Thrust Data

SR 4410

Data in clear water and open sea conditions. Minimum power margin 12%.

Table 2: 50 Hz, 4-pole 3-phase, 2.3 kW

RPM	25			27			29			31		
	Propeller diameter, mm	F_{thrust} N	P_{in} kW	Prop. code	F_{thrust} N	P_{in} kW	Prop. code	F_{thrust} N	P_{in} kW	Prop. code	F_{thrust} N	P_{in} kW
2500	1710	1.50	440	1910	1.77	400	2200	2.19	450	2410	2.49	410
2200	1310	1.32	441	1490	1.60	401	1730	2.03	451	1980	2.42	411
2000	1190	1.21	442	1340	1.45	402	1550	1.82	452	1750	2.22	412
1800	890	1.00	443	1030	1.18	403	1200	1.46	453	1350	1.77	413
1700	780	0.94	444	890	1.06	404	1030	1.28	454	1160	1.54	414
1600	670	0.88	445	740	0.95	405	850	1.11	455	970	1.31	415
1500	560	0.81	446	630	0.86	406	740	1.00	456	840	1.17	416
1400	450	0.74	447	510	0.79	407	620	0.90	457	700	1.03	417

Table 3: 50 Hz, 4-pole 3-phase, 2.3 kW

RPM	34			38			40			45			
	Propeller diameter, mm	F_{thrust} N	P_{in} kW	Prop. code	F_{thrust} N	P_{in} kW	Prop. code	F_{thrust} N	P_{in} kW	Prop. code	F_{thrust} N	P_{in} kW	Prop. code
2000	2060	2.70	462	-	-	-	-	-	-	-	-	-	-
1800	1570	2.27	463	-	-	-	-	-	-	-	-	-	-
1700	1370	2.00	464	1660	2.57	424	-	-	-	-	-	-	-
1600	1160	1.70	465	1410	2.32	425	1540	2.53	475	-	-	-	-
1500	1000	1.50	466	1230	2.07	426	1330	2.32	476	-	-	-	-

RPM	34			38			40			45		
Propeller diameter, mm	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code
1400	840	1.29	467	1040	1.77	427	1110	2.00	477	1370	2.58	437

Table 4: 50 Hz 6-pole 3-phase, 0.9 kW

RPM	17			18			19			21		
Propeller diameter, mm	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code
2500	890	0.71	640	980	0.78	600	1110	0.88	650	1220	0.97	610
2200	650	0.62	641	730	0.68	601	830	0.77	651	920	0.85	611
2000	590	0.56	642	660	0.62	602	750	0.70	652	830	0.77	612
1800	440	0.49	643	490	0.54	603	560	0.60	653	620	0.65	613
1700	400	0.48	644	450	0.52	604	510	0.58	654	570	0.64	614
1600	370	0.47	645	410	0.51	605	460	0.57	655	510	0.63	615
1500	290	0.42	646	330	0.46	606	380	0.51	656	420	0.56	616
1400	220	0.37	647	250	0.40	607	290	0.44	657	330	0.48	617

Table 5: 50 Hz 6-pole 3-phase, 0.9 kW

RPM	23			26		
Propeller diameter, mm	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code
2500	1390	1.11	660	-	-	-
2200	1060	1.00	661	-	-	-
2000	970	0.93	662	-	-	-
1800	720	0.76	663	900	0.99	623
1700	650	0.74	664	790	0.93	624
1600	590	0.72	665	680	0.84	625
1500	490	0.63	666	580	0.74	626
1400	390	0.55	667	470	0.64	627

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Data in clear water and open sea conditions. Minimum power margin 12%.

Table 6: 50 Hz, 4-pole 3-phase, 4.3 kW

RPM	25			27			30			32		
Propeller diameter, mm	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code
2500	1750	1.47	440	1960	1.7	400	2270	2.06	450	2530	2.44	410
2200	1340	1.32	441	1540	1.56	401	1800	1.93	451	2080	2.34	411
2000	1210	1.22	442	1370	1.43	402	1600	1.75	452	1830	2.1	412
1800	900	1.01	443	1040	1.18	403	1220	1.44	453	1390	1.71	413
1700	790	0.94	444	900	1.07	404	1040	1.28	454	1190	1.51	414

RPM	25			27			30			32		
Propeller diameter, mm	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code
1600	680	0.87	445	750	0.95	405	860	1.12	455	990	1.31	415
1500	570	0.79	446	630	0.86	406	750	1.01	456	850	1.17	416
1400	460	0.71	447	510	0.76	407	630	0.91	457	710	1.04	417

Table 7: 50 Hz, 4-pole 3-phase, 4.3 kW

RPM	35			40			41			46		
Propeller diameter, mm	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code
2500	2960	3.10	460	3450	4.02	420	3620	4.41	470	-	-	-
2200	2470	3.06	461	3030	4.23	421	3250	4.76	471	-	-	-
2000	2170	2.73	462	2600	3.73	422	2790	4.19	472	-	-	-
1800	1640	2.16	463	2010	2.95	423	2170	3.34	473	2600	4.49	433
1700	1420	1.91	464	1750	2.58	424	1900	2.93	474	2310	4.00	434
1600	1200	1.66	465	1490	2.22	425	1630	2.54	475	2010	3.50	435
1500	1030	1.47	466	1280	1.97	426	1390	2.21	476	1720	3.04	436
1400	850	1.29	467	1070	1.71	427	1150	1.90	477	1440	2.58	437

Table 8: 50 Hz, 2-pole 3-phase, 4.4 kW

RPM	50			54		
Propeller diameter, mm	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code
1600	2420	4.63	245	-	-	-
1500	2040	4.07	246	-	-	-
1400	1650	3.45	247	1790	4.01	207

SR 4460

Data in clear water and open sea conditions. Minimum power margin 12%.

Table 9: 50 Hz 4-pole 3-phase, 5.7 kW

RPM	36			40			42			47		
Propeller diameter, mm	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code
2500	3000	3.3	460	3600	4.1	420	3900	4.5	470	4700	6.0	430
2200	2500	3.3	461	3100	4.4	421	3400	5.0	471	4300	6.7	431
2000	2100	2.9	462	2500	3.9	422	2700	4.3	472	3400	5.7	432
1800	1600	2.4	463	2000	3.1	423	2200	3.5	473	2700	4.6	433

RPM	36			40			42			47		
Propeller diameter, mm	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code	F _{thrust} N	P _{in} kW	Prop. code
1700	1400	2.1	464	1700	2.8	424	1900	3.1	474	2400	4.1	434

Table 10: 50 Hz 2-pole 3-phase, 7.5 kW

RPM	69		
Propeller diameter, mm	F _{thrust} N	P _{in} kW	Prop. code
1400	3000	7.6	287

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