



4"

WF SS Series

4" Rewindable

Water Filled Submersible Motor

50 / 60 Hz

4" WF SS Series

NIAGARA 4" WF SS Submersible Motor specially designed, with the latest manufacturing techniques. Years of experience, superior design and better manufacturing have resulted into development of this range of motor. Which are efficient and reliable in operation. Strict quality assurance during the total process assure trouble free and reliability in operation requiring minimum maintenance.

Applications:

Built for coupling with submersible multistage high and low load thrust 4" pumps for clean water deep well.

Technical Features:

- 4" WF SS Series Motors are water Lubricated and rewindable.
- Motor shaft is of AISI 420 grade or above.
- Stator shell is of AISI 304 grade.
- Winding wire poly propylene with insulation Class-B.
- Flange and shaft protrusion as per NEMA standard.
- Water lubricated radial and thrust bearing.
- Degree of protection: IP 68
- Mounting: vertical/horizontal.
- Single phase motors are capacitor start capacitor run.
- Dynamically balanced rotor ensure smooth running.
- Solid copper bars inserted in to our piece billet rotor offer great rigidity.
- Motor cable length: 3m/3core.

Operating limits:

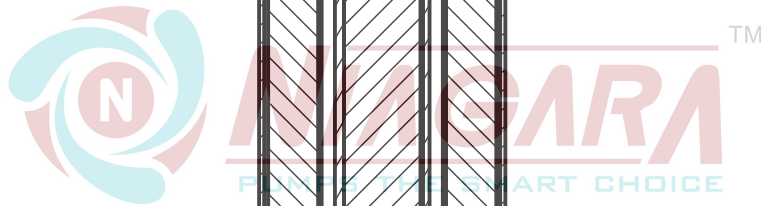
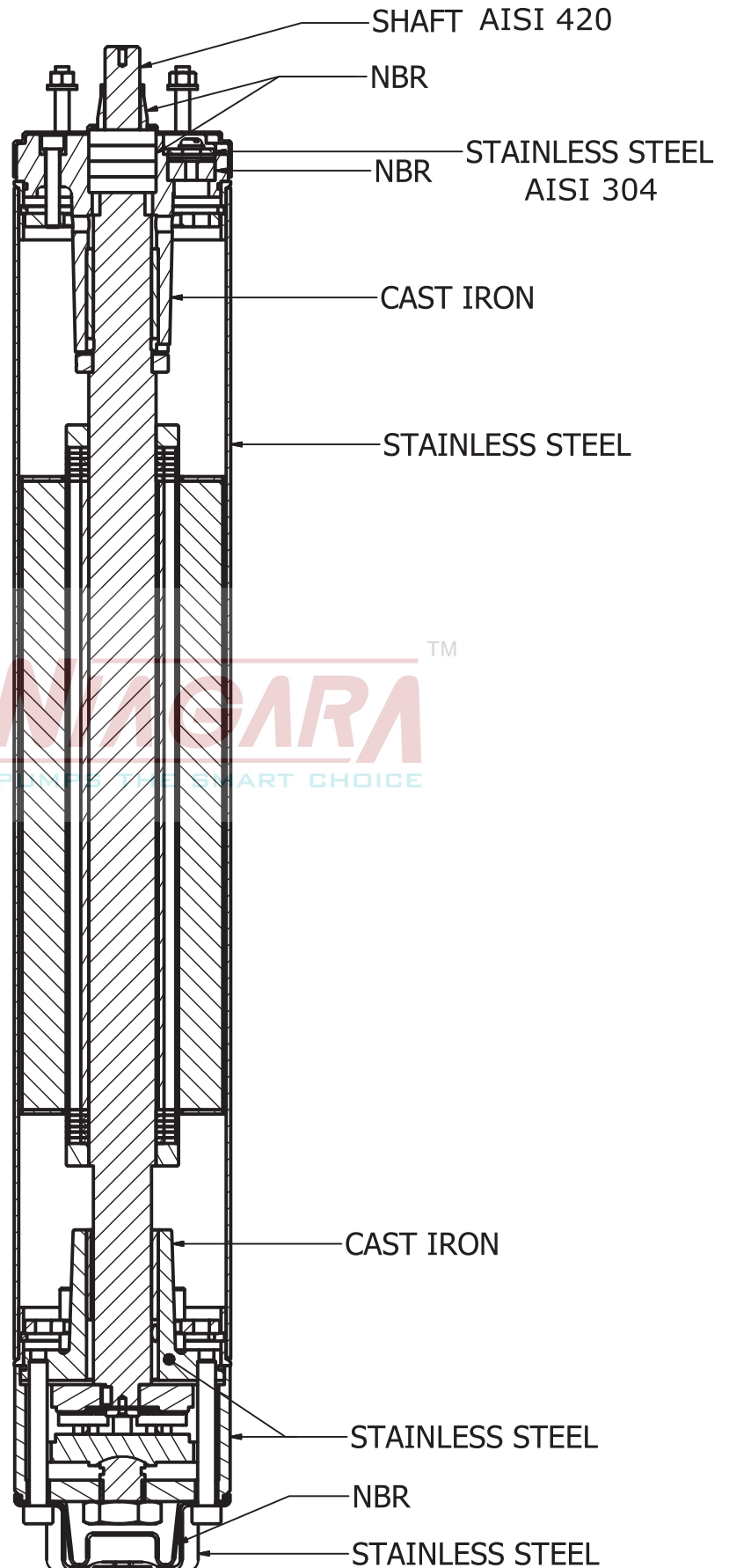
- Maximum allowable rating voltage fluctuation +6%-10%.
- Maximum motor starting per hour: 30
- Water well temperature range-0 to 30°C with minimum flow rate speed of 0.08m/s.
- Liquid for use clean water (Ph 6.5 to 8)
- Pumped liquids:-Clean, thin, non aggressive, non explosive, clear, cold, fresh water
- Without abrasives.
- Axial thrust: 3000N from 2.2 kw up to 7.5 kw.

Versions:

- Three Phase : 2.2 to 7.50 kW, 380-400-415 Volt / 50 Hz
- Three Phase : 2.5 to 7.50 kW, 230-380-460 Volt / 60 Hz

4" WF SS Series

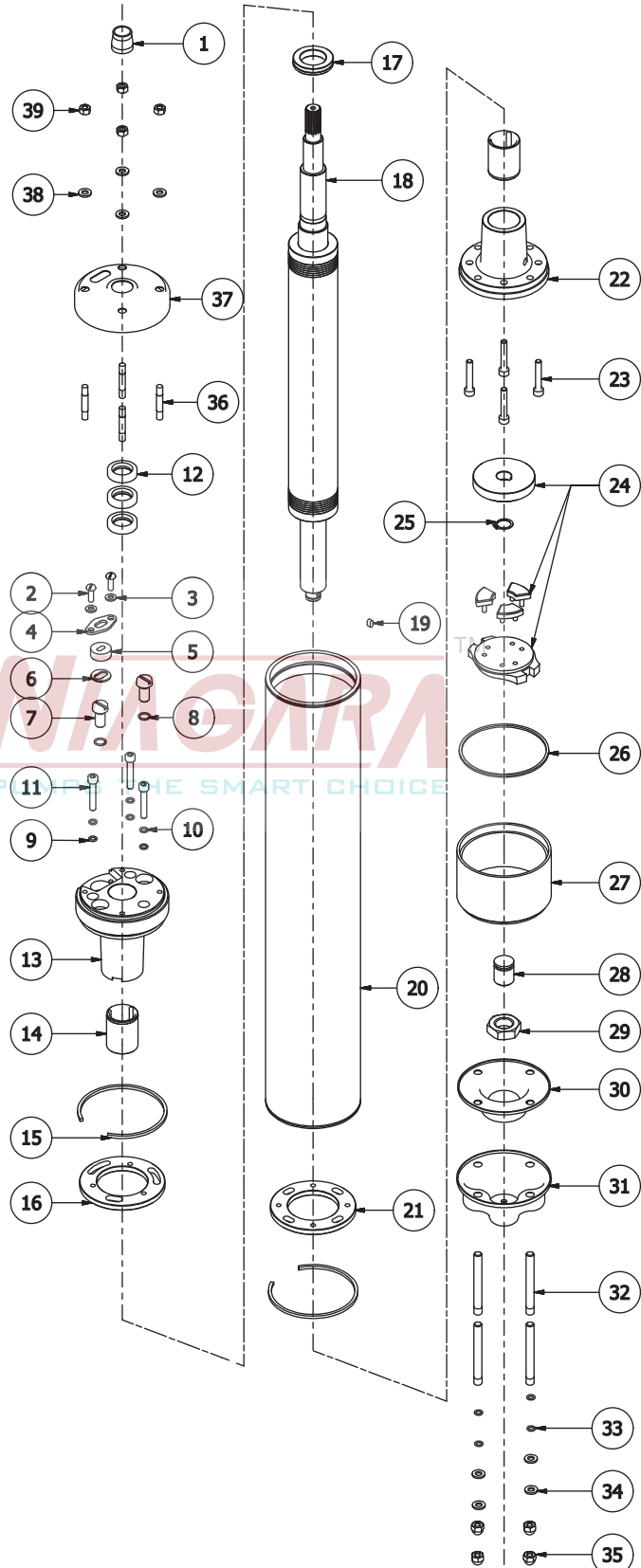
4" WF SS Motor Cross Sectional Drawing



4" WF SS Series

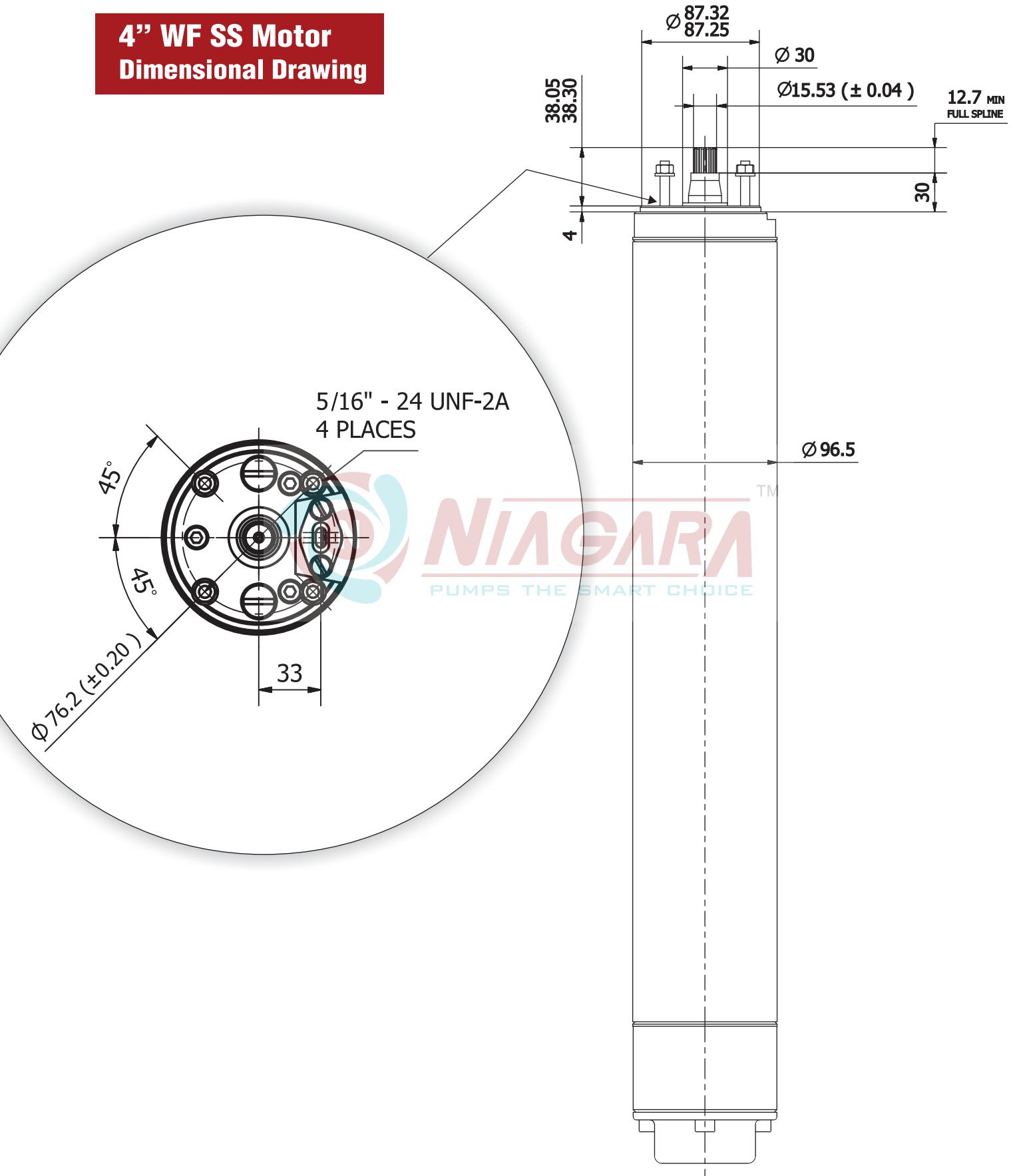
4" WF SS Motor Exploded View

Sr. No.	Part Name
1	SAND GUARD
2	CABLE CLIP SCREW
3	CABLE CLIP WASHER
4	CABLE CLIP
5	CABLE GROMMET
6	CABLE WASHER
7	DRAIN PLUG
8	DRAIN PLUG O - RING
9	COPPER WASHER
10	ALLEN BOLT O - RING
11	ALLEN BOLT
12	OIL SEAL
13	UPPER HOUSING
14	CARBON BEARING BUSH
15	CIRCLIP (INTERNAL)
16	UPPER FLANGE
17	STOP WASHER
18	ROTOR
19	KEY
20	STATOR
21	LOWER FLANGE
22	LOWER HOUSING
23	ALLEN BOLT
24	THRUST BEARING PAD SET
25	CIRCLIP (EXTERNAL)
26	MOTOR BASE RING
27	MOTOR BASE
28	ROCKOR
29	HEX NUT
30	PRESSURE CUP
31	MOTOR BASE COVER
32	STUD
33	O - RING
34	RADIUS WASHER
35	DUM NUT
36	STUD
37	CONNECTIVE JACKET
38	STUD WASHER
39	HEX NUT



4" WF SS Series

4" WF SS Motor Dimensional Drawing



4" WF SS Series

Submersible Rewindable Motor

4" WF SS

4" Submersible Rewindable Motor Performance Data 50 Hz

4 Inch / 3 Phase Water Filled Motor

MOTOR TYPE	PN		Thrust Load (N)	Un (V)	IN	IA	nN min-1	η (Eff.) (%) AT % LOAD			COS Ø (P.F) AT % LOAD			TN (Nm)
	HP	kW			(Amps)			50	75	100	50	75	100	
4" WF SS 50	0.50	0.37	4000	380	1.20	3.80	2840	54.5	61.0	63.0	0.67	0.71	0.73	1.22
				400	1.10	3.90	2840	55.5	61.0	63.0	0.68	0.72	0.74	1.22
				415	1.00	3.95	2840	55.5	61.5	63.5	0.68	0.72	0.74	1.22
4" WF SS 75	0.75	0.55	4000	380	1.70	4.00	2840	56.5	62.0	64.0	0.69	0.73	0.75	1.82
				400	1.60	4.05	2840	57.0	62.0	64.0	0.70	0.74	0.76	1.82
				415	1.50	4.10	2840	57.0	62.5	64.5	0.70	0.74	0.76	1.82
4" WF SS 10	1.00	0.75	4000	380	2.25	4.05	2840	62.0	65.5	67.0	0.69	0.73	0.75	2.50
				400	2.20	4.10	2840	62.5	66.0	67.5	0.70	0.74	0.76	2.50
				415	2.10	4.15	2840	62.5	66.5	68.0	0.70	0.74	0.76	2.50
4" WF SS 15	1.50	1.10	4000	380	3.10	4.10	2840	65.5	70.5	71.5	0.70	0.74	0.76	3.70
				400	3.00	4.15	2840	66.0	70.5	71.5	0.71	0.75	0.77	3.70
				415	2.90	4.20	2840	66.5	71.0	72.0	0.71	0.75	0.77	3.70
4" WF SS 20	2.00	1.50	4000	380	4.00	4.15	2840	67.0	70.5	72.0	0.71	0.75	0.77	5.00
				400	3.90	4.20	2840	67.5	70.5	72.0	0.72	0.76	0.78	5.00
				415	3.85	4.25	2840	67.5	71.0	72.5	0.72	0.76	0.78	5.00
4" WF SS 30	3.00	2.20	4000	380	5.70	4.30	2830	67.5	72.5	74.0	0.71	0.76	0.78	7.50
				400	5.60	4.35	2835	68.5	73.5	74.5	0.72	0.77	0.80	7.50
				415	5.50	4.40	2840	69.0	73.5	74.5	0.73	0.78	0.80	7.50
4" WF SS 40	4.00	3.00	4000	380	7.50	4.35	2830	69.0	74.0	76.0	0.73	0.78	0.79	10.10
				400	7.40	4.40	2835	70.0	74.5	76.5	0.74	0.78	0.80	10.10
				415	7.30	4.50	2840	70.0	74.5	76.5	0.75	0.79	0.81	10.10
4" WF SS 55	5.50	4.00	4000	380	10.15	4.50	2830	69.0	74.0	76.0	0.75	0.79	0.81	13.50
				400	10.10	4.55	2835	70.5	75.0	77.0	0.76	0.80	0.82	13.50
				415	10.00	4.70	2840	70.5	75.0	77.0	0.76	0.81	0.83	13.50
4" WF SS 75	7.50	5.50	4000	380	13.70	4.70	2830	69.0	75.0	77.0	0.76	0.81	0.82	18.50
				400	13.60	4.75	2835	70.5	75.5	77.5	0.77	0.82	0.82	18.50
				415	13.50	4.85	2840	70.5	75.5	77.5	0.78	0.83	0.83	18.50
4" WF SS 10	10.00	7.50	4000	380	18.30	4.90	2840	70.0	76.0	78.0	0.76	0.81	0.82	23.50
				400	17.50	4.95	2840	71.0	76.0	78.0	0.77	0.82	0.82	23.50
				415	17.30	5.05	2840	71.0	76.0	78.0	0.78	0.83	0.83	23.50

4" WF SS Series

Submersible Rewindable Motor

4" WF SS

4" Submersible Rewindable Motor Performance Data 60 Hz

4 Inch / 3 Phase Water Filled Motor

MOTOR TYPE	P _N		Thrust Load (N)	U _N (V)	I _N	I _A	n _N min-1	η (Eff.) (%) AT % LOAD			COS ∅ (P.F) AT % LOAD			T _N (Nm)
	HP	kW			(Amps)			50	75	100	50	75	100	
	4" WF SS 50	0.50	0.37	3000	230	2.40	9.50	3445	60	63	64	0.59	0.70	0.78
380					1.40	5.50	3445	60	63	64	0.59	0.70	0.78	1.22
460					1.20	4.60	3445	60	63	64	0.59	0.70	0.78	1.22
4" WF SS 75	0.75	0.55	3000	230	3.10	12.3	3450	64	67	69	0.56	0.70	0.80	1.82
				380	1.90	7.50	3450	64	67	69	0.56	0.70	0.80	1.82
				460	1.60	6.30	3450	64	67	69	0.56	0.70	0.80	1.82
4" WF SS 10	1.00	0.75	3000	230	3.90	17.5	3455	65	69	71	0.58	0.71	0.82	2.50
				380	2.30	10.3	3455	65	69	71	0.58	0.71	0.82	2.50
				460	2.00	8.80	3455	65	69	71	0.58	0.71	0.82	2.50
4" WF SS 15	1.50	1.10	3000	230	4.90	24.8	3445	69	72	75	0.60	0.75	0.82	3.70
				380	2.90	14.9	3445	69	72	75	0.60	0.75	0.82	3.70
				460	2.50	12.3	3445	69	72	75	0.60	0.75	0.82	3.70
4" WF SS 20	2.00	1.50	3000	230	6.70	33.3	3445	65	67	70	0.59	0.74	0.82	5.00
				380	4.10	20.4	3445	65	67	70	0.59	0.74	0.82	5.00
				460	3.35	16.8	3445	65	67	70	0.59	0.74	0.82	5.00
4" WF SS 30	3.00	2.20	4000	230	9.50	47.4	3450	70	73	75	0.53	0.65	0.75	7.50
				380	5.70	28.8	3450	70	73	75	0.53	0.65	0.75	7.50
				460	4.80	23.9	3450	70	73	75	0.53	0.65	0.75	7.50
4" WF SS 40	4.00	3.00	4000	230	12.5	52.3	3450	70	72	75	0.52	0.65	0.74	10.10
				380	7.50	30.4	3450	70	72	75	0.52	0.65	0.74	10.10
				460	5.60	25.5	3450	70	72	75	0.52	0.65	0.74	10.10
4" WF SS 55	5.50	4.00	6500	230	15.9	55.5	3450	70	72	74	0.52	0.66	0.74	13.50
				380	9.60	33.5	3450	70	72	74	0.52	0.66	0.74	13.50
				460	7.70	27.8	3450	70	72	74	0.52	0.66	0.74	13.50
4" WF SS 75	7.50	5.50	6500	230	22.8	91.7	3445	71	72	76	0.55	0.69	0.78	18.50
				380	13.9	55.5	3445	71	72	76	0.55	0.69	0.78	18.50
				460	11.5	45.8	3445	71	72	76	0.55	0.69	0.78	18.50
4" WF SS 10	10.00	7.50	6500	230	27.0	94.5	3450	71	73	76	0.57	0.70	0.80	23.50
				380	19.2	67.5	3450	71	73	76	0.57	0.70	0.80	23.50
				460	15.9	55.5	3450	71	73	76	0.57	0.70	0.80	23.50