NIAGARA©

PUMPS THE SMART CHOICE

4"

WF SS Series

4" Rewindable Water-Filled Submersible Motor

**“Experience the Difference,
The Ultimate Choice for Your Water Needs!”**

50/60Hz

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4" WF SS Series



NIAGARA 4" WF SS Submersible Motor is specially designed with the latest manufacturing techniques. Years of experience, superior design and better manufacturing have resulted in the development of this range of motors, which are efficient and reliable in operation. Strict quality assurance during the total process assures 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.
- 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: 3.5 Meter / 3 Core.
- Easily rewindable (wet wound) induction motor with PE insulated windings Class B.

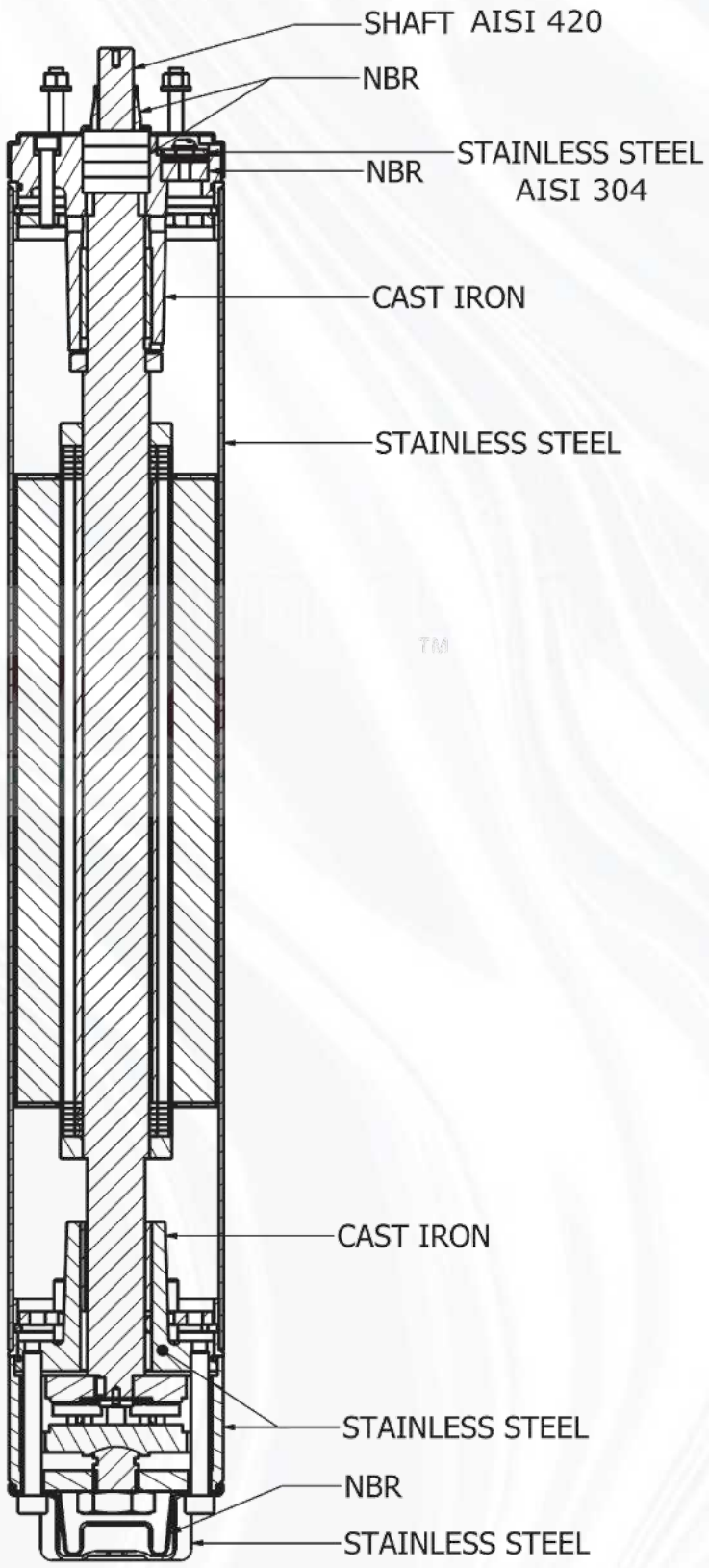
Operating Limits

- 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 0.08 m/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: 3000-6500 N from 2.2 kW up to 7.5 kW & 50/60Hz.

Versions

- Three Phase: 2.2 to 7.50 kW, 380-400-415 Volt / 50 Hz.
- Three Phase: 2.2 to 7.50 kW, 230-380-460 Volt / 60 Hz.
- Single Phase: 2.2 to 5.5 kW, 220-230 Volt / 50/60 Hz.

4" WF SS MOTOR — CROSS SECTIONAL DRAWING

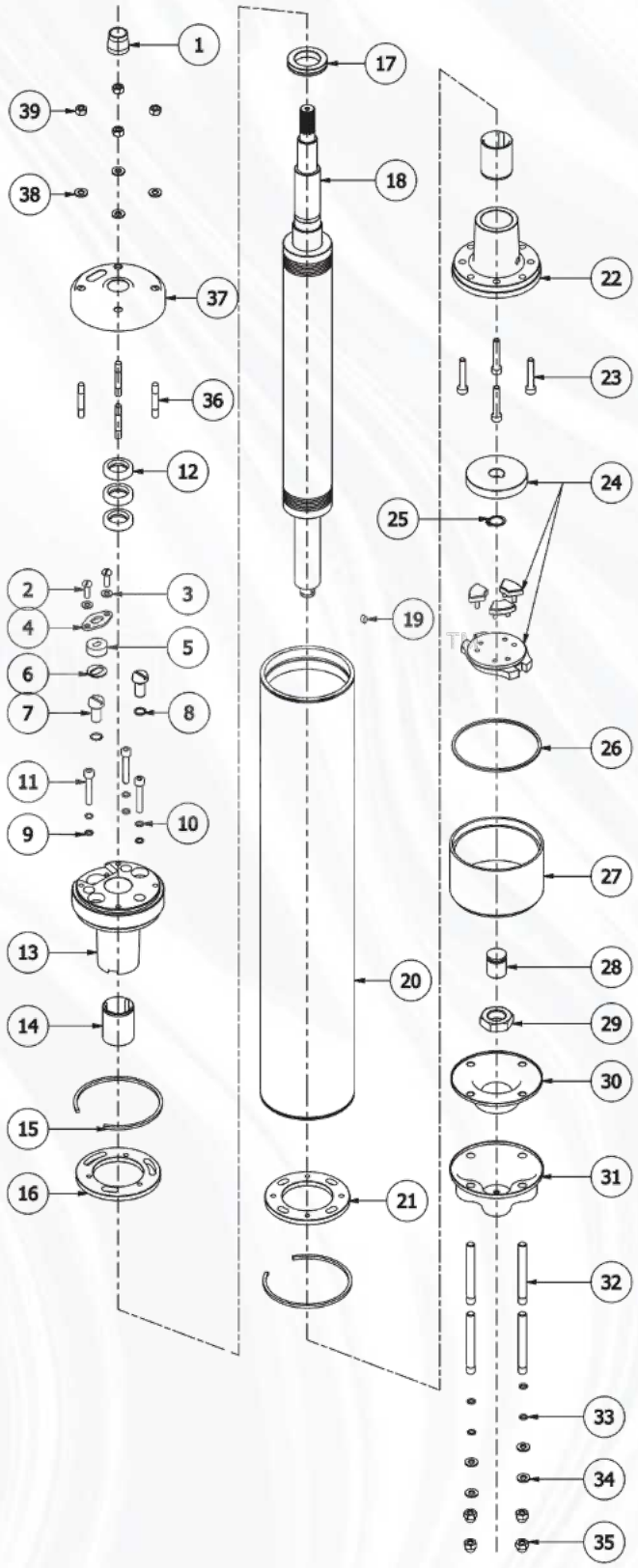


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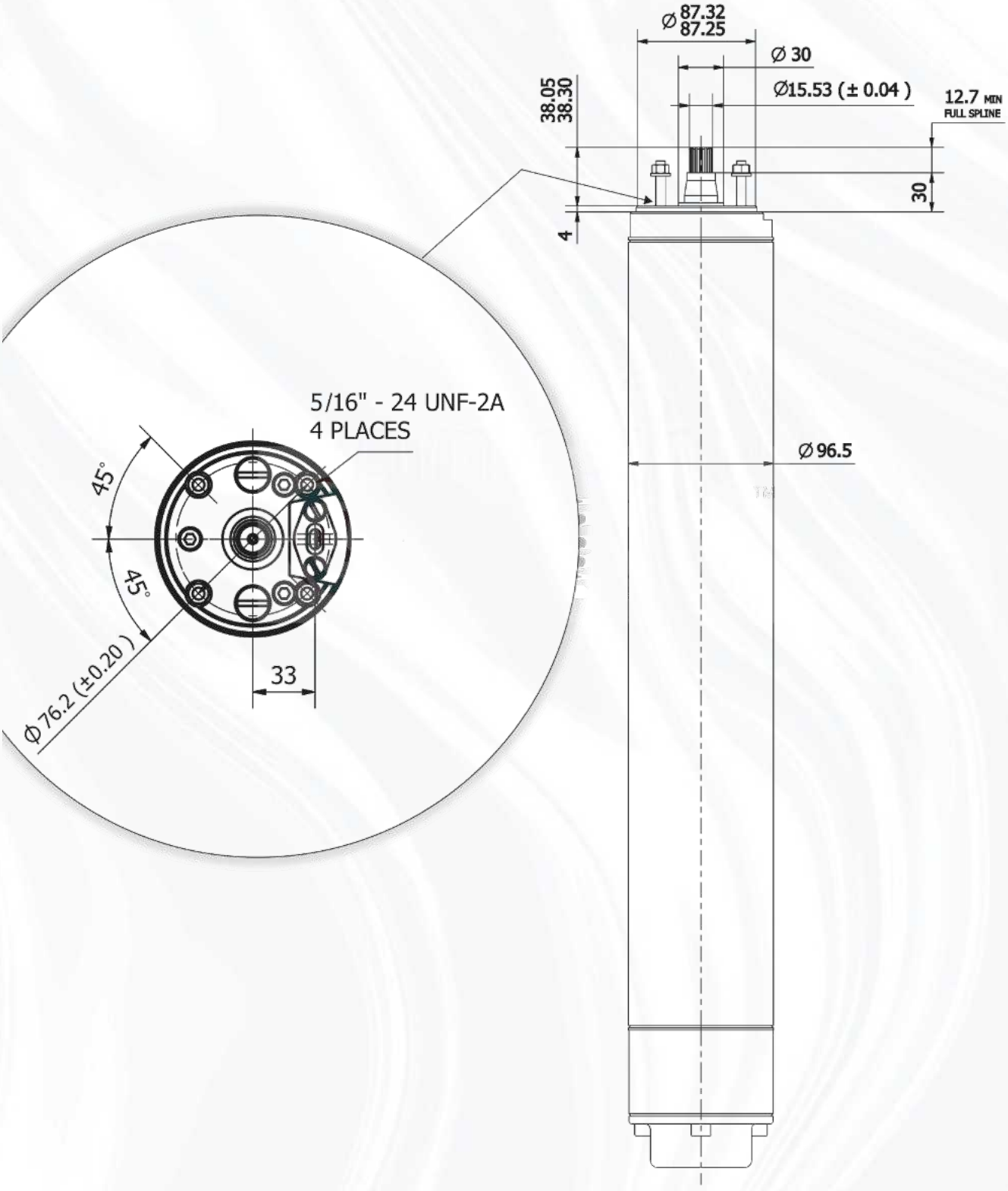
4" WF SS Series

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 Shell
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	Rocker
29	Hex Nut
30	Pressure Cup
31	Motor Base Cover
32	Stud
33	O-Ring
34	Radius Washer
35	Dome Nut
36	Stud
37	Connective Jacket
38	Stud Washer
39	Hex Nut



4" WF SS MOTOR — DIMENSIONAL DRAWING



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

Submersible Rewindable Motor

4" WF SS

4" Submersible Rewindable Motor Performance Data 60 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	3000	230	2.40	9.50	3445	60.0	63.0	64.0	0.59	0.70	0.78	1.22
				380	1.40	5.50	3445	60.0	63.0	64.0	0.59	0.70	0.78	1.22
				460	1.20	4.60	3445	60.0	63.0	64.0	0.59	0.70	0.78	1.22
4" WF SS 75	0.75	0.55	3000	230	3.10	12.3	3450	64.0	67.0	69.0	0.56	0.70	0.80	1.82
				380	1.90	7.50	3450	64.0	67.0	69.0	0.56	0.70	0.80	1.82
				460	1.60	6.30	3450	64.0	67.0	69.0	0.56	0.70	0.80	1.82
4" WF SS 10	1.00	0.75	3000	230	3.90	17.5	3455	65.0	69.0	71.0	0.58	0.71	0.82	2.50
				380	2.30	10.3	3455	65.0	69.0	71.0	0.58	0.71	0.82	2.50
				460	2.00	8.80	3455	65.0	69.0	71.0	0.58	0.71	0.82	2.50
4" WF SS 15	1.50	1.10	3000	230	4.90	24.8	3445	69.0	72.0	75.0	0.60	0.75	0.82	3.70
				380	2.90	14.9	3445	69.0	72.0	75.0	0.60	0.75	0.82	3.70
				460	2.50	12.3	3445	69.0	72.0	75.0	0.60	0.75	0.82	3.70
4" WF SS 20	2.00	1.50	3000	230	6.70	33.3	3445	65.0	67.0	70.0	0.59	0.74	0.82	5.00
				380	4.10	20.4	3445	65.0	67.0	70.0	0.59	0.74	0.82	5.00
				460	3.35	16.8	3445	65.0	67.0	70.0	0.59	0.74	0.82	5.00
4" WF SS 30	3.00	2.20	4000	230	9.50	47.4	3450	70.0	73.0	75.0	0.53	0.65	0.75	7.50
				380	5.70	28.8	3450	70.0	73.0	75.0	0.53	0.65	0.75	7.50
				460	4.80	23.9	3450	70.0	73.0	75.0	0.53	0.65	0.75	7.50
4" WF SS 40	4.00	3.00	4000	230	12.5	52.3	3450	70.0	72.0	75.0	0.52	0.65	0.74	10.10
				380	7.50	30.4	3450	70.0	72.0	75.0	0.52	0.65	0.74	10.10
				460	5.60	25.5	3450	70.0	72.0	75.0	0.52	0.65	0.74	10.10
4" WF SS 55	5.50	4.00	6500	230	15.9	55.5	3450	70.0	72.0	74.0	0.52	0.66	0.74	13.50
				380	9.60	33.5	3450	70.0	72.0	74.0	0.52	0.66	0.74	13.50
				460	7.70	27.8	3450	70.0	72.0	74.0	0.52	0.66	0.74	13.50
4" WF SS 75	7.50	5.50	6500	230	22.8	91.7	3445	71.0	72.0	76.0	0.55	0.69	0.78	18.50
				380	13.9	55.5	3445	71.0	72.0	76.0	0.55	0.69	0.78	18.50
				460	11.5	45.8	3445	71.0	72.0	76.0	0.55	0.69	0.78	18.50
4" WF SS 10	10.00	7.50	6500	230	27.0	94.5	3450	71.0	73.0	76.0	0.57	0.70	0.80	23.50
				380	19.2	67.5	3450	71.0	73.0	76.0	0.57	0.70	0.80	23.50
				460	15.9	55.5	3450	71.0	73.0	76.0	0.57	0.70	0.80	23.50

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