

VOLK PUMP TRAINING VIDEO

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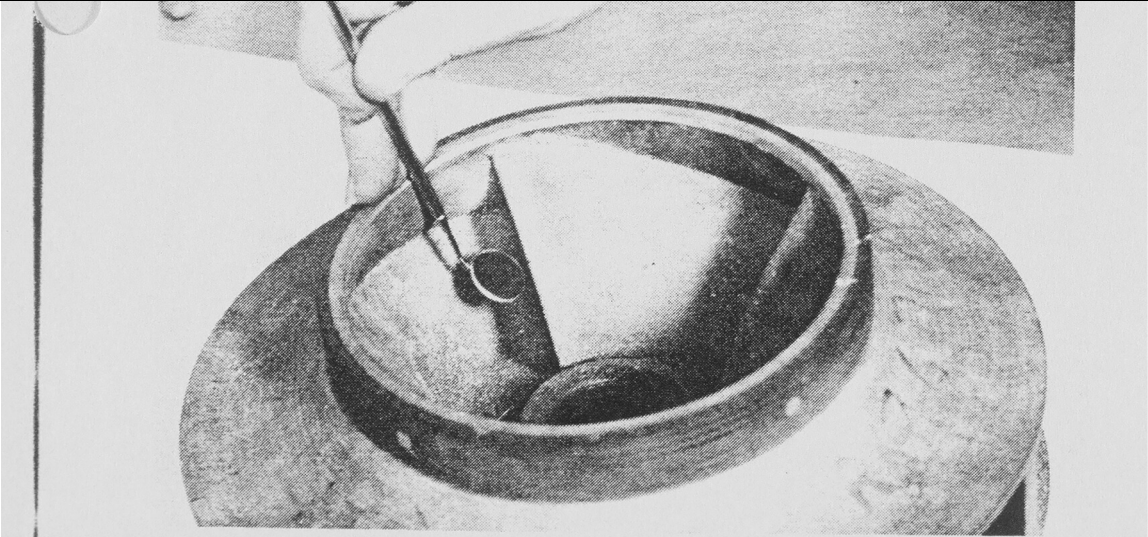
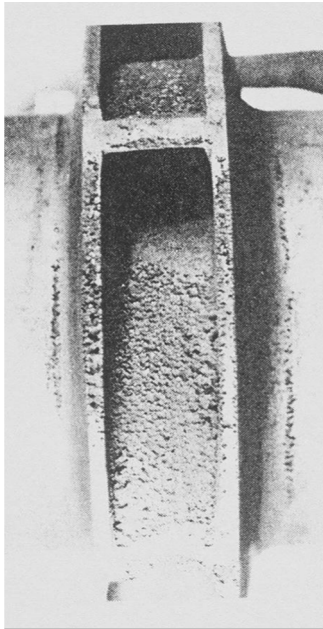


Figure 4. Inspection of Pressure Side of Inlet Vane for Recirculation Damage.

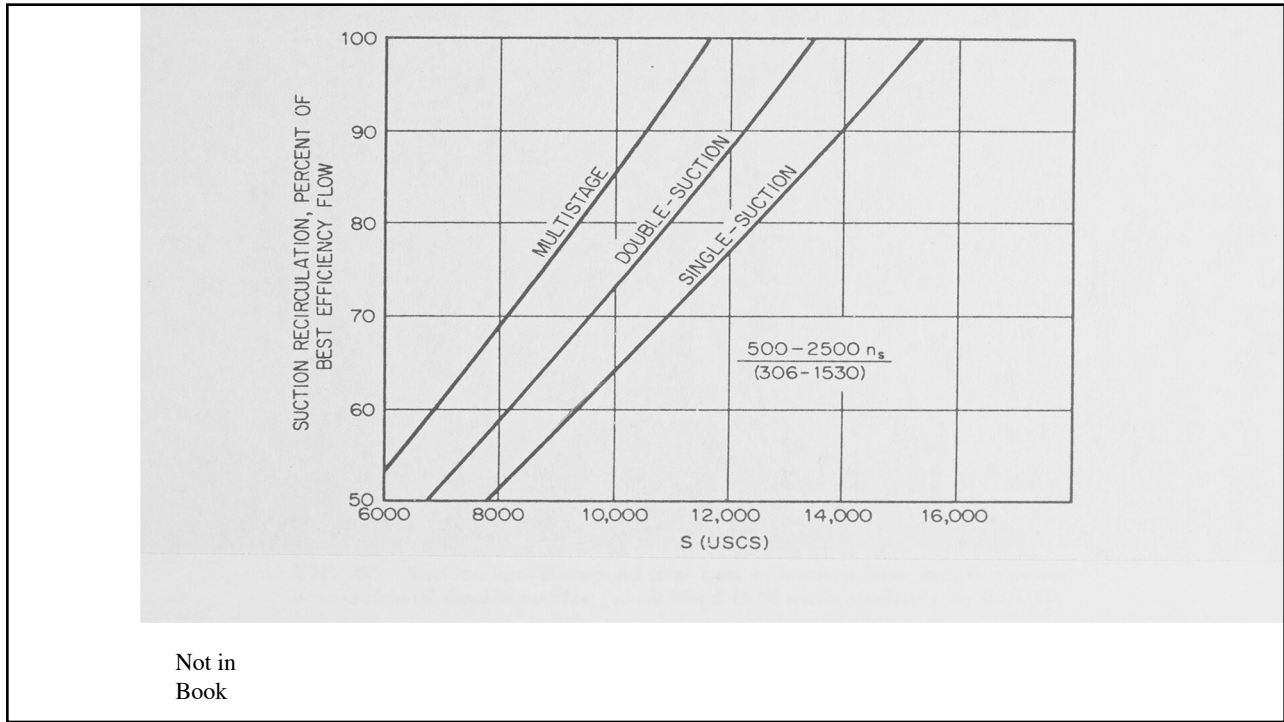
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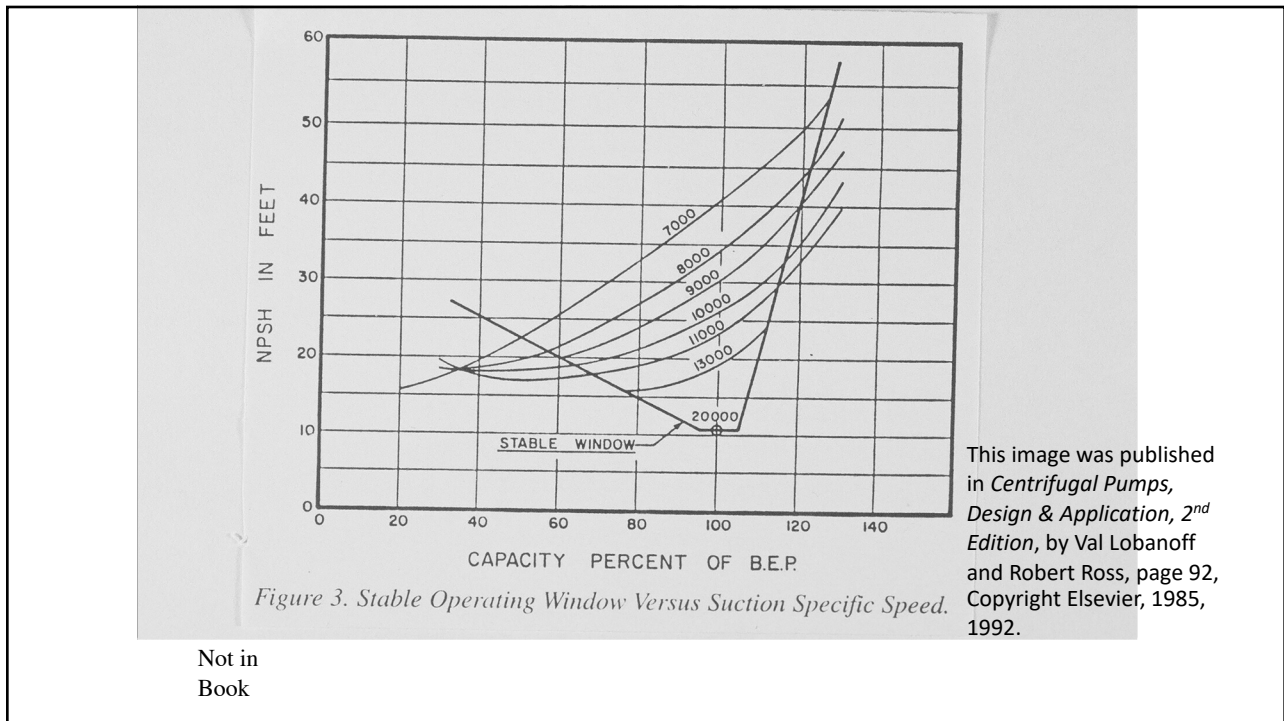


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PREFERRED OPERATING RANGE STABLE OPERATING WINDOW (VARIATION WITH SUCTION SPECIFIC SPEED)

<u>N_{ss}/S</u>	<u>% of BEP</u>
9,000	60-120%
11,000	70-117%
13,000	75-111%
20,000	95-105%

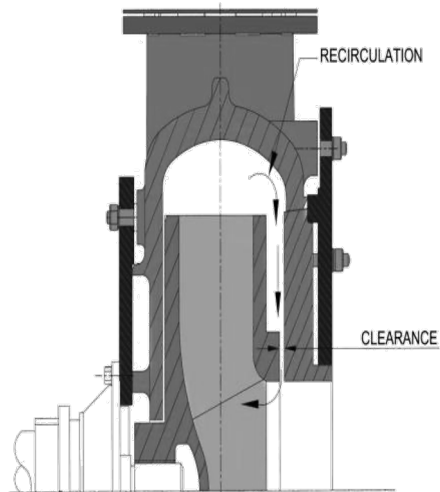
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Conventional Flow Recirculation

Based on Clearance Versus Pump
Speed

CLEARANCE		1400 RPM	1700 RPM
.300 mm	0.012"	3.52%	4.03%
.432 mm	0.017"	6.06%	6.65%
.508 mm	0.020"	7.92%	8.62%
.737 mm	0.029"	13.20%	13.90%
1.000 mm	0.040"	18.70%	19.60%



Ref: R.J. Stepanoff – Centrifugal and Axial Flow Pumps

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RUBBER VERSUS URETHANE FOR ELASTOMERIC COUPLINGS

Advantages	Urethane	Rubber
	<ul style="list-style-type: none"> • Highly durable • High tear strength (stiffer element) • Abrasion resistant • No ozone cracking problems • Durable in sunlight 	<ul style="list-style-type: none"> • Water resistant • Flexible (more misalignment) • Handles both temperature extremes • Great electrical insulation
Disadvantages	<ul style="list-style-type: none"> • Hysteresis • Not high temperature material • Subject to hydrolysis in moisture-rich environments • Stiffer element (allows less misalignment) 	<ul style="list-style-type: none"> • Hysteresis • Ozone cracking (sunlight aging) • Softer element material carries less torque

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ALLOWABLE NUMBER OF STARTS AND MINIMUM TIME BETWEEN STARTS FOR DESIGN A AND DESIGN B MOTORS

HP	2-Pole			4-Pole			6-Pole		
	A	B	C	A	B	C	A	B	C
1	15	1.2	75	30	5.8	38	34	15	33
1.5	12.9	1.8	76	25.7	8.6	38	29.1	23	34
2	11.5	2.4	77	23	11	39	26.1	30	35
3	9.9	3.5	80	19.8	17	40	22.4	44	36
5	8.1	5.7	83	16.3	27	42	18.4	71	37
7.5	7.0	8.3	88	13.9	39	44	15.8	104	39
10	6.2	11	92	12.5	51	46	14.2	137	41
15	5.4	16	100	10.7	75	50	12.1	200	44
20	4.8	21	110	9.6	99	55	10.9	262	48
25	4.4	26	115	8.8	122	58	10.0	324	51
30	4.1	31	120	8.2	144	60	9.3	384	53
40	3.7	40	130	7.4	189	65	8.4	503	57
50	3.4	49	145	6.8	232	72	7.7	620	64
60	3.2	58	170	6.3	275	85	7.2	735	75
75	2.9	71	180	5.8	338	90	6.6	904	79
100	2.6	92	110	5.2	441	110	5.9	1181	97
125	2.4	113	275	4.8	542	140	5.4	1452	120
150	2.2	133	320	4.5	640	160	5.1	1719	140
200	2.0	172	600	4.0	831	300	4.5	2238	265
250	1.8	210	1000	3.7	1017	500	4.2	2744	440

Where:

- A = Maximum number of starts per hour.
- B = Maximum product of starts per hour times load Wk^2 .
- C = Minimum rest or off time in seconds between starts.

Allowable starts per hour is the lesser of (1) A or (2) B divided by the load Wk^2 i.e.

$$\text{Starts per hour} \leq \frac{B}{\text{Load } Wk^2}$$

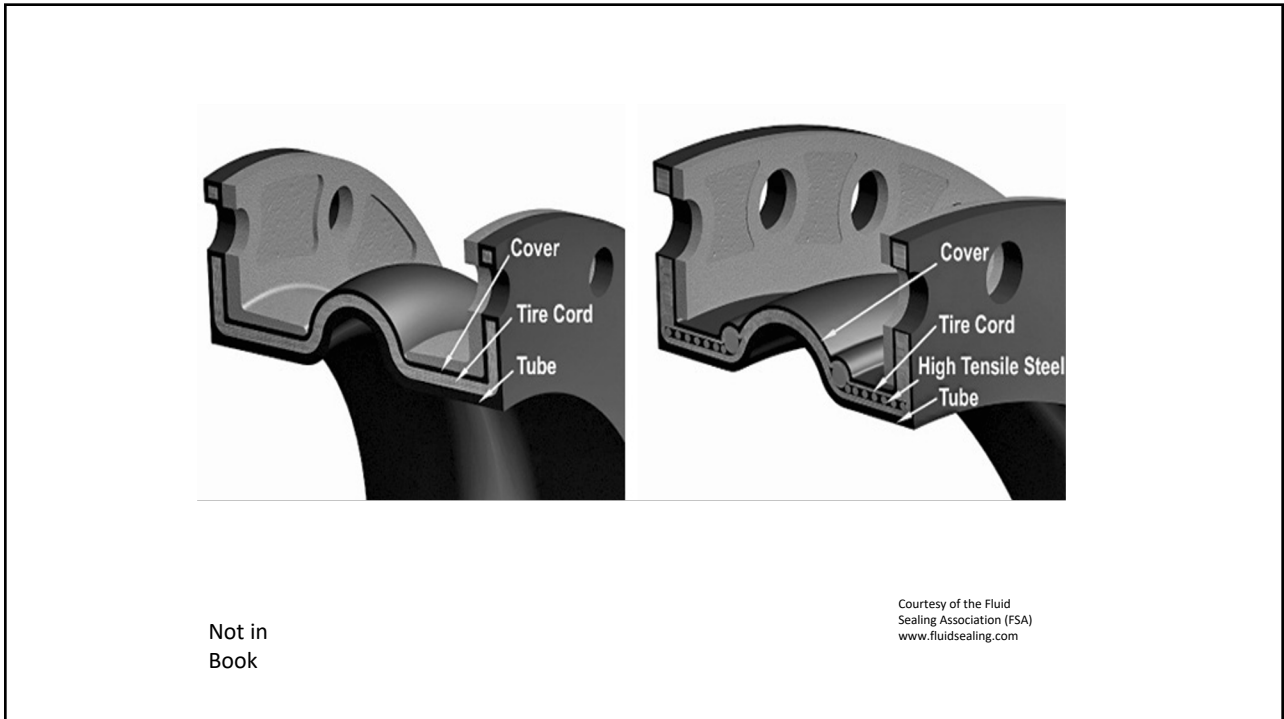
Note: Table 7 is based on the following conditions:

- a) Applied voltage and frequency in accordance with MG 1-12.44.
- b) During the accelerating period, the connected load torque is equal to or less than a torque which varies as the square of the speed and is equal to 100 percent of rated torque at rated speed.
- c) External load Wk^2 equal to or less than the values listed in MG1-12.54.
- d) For other conditions, the manufacturer should be consulted.

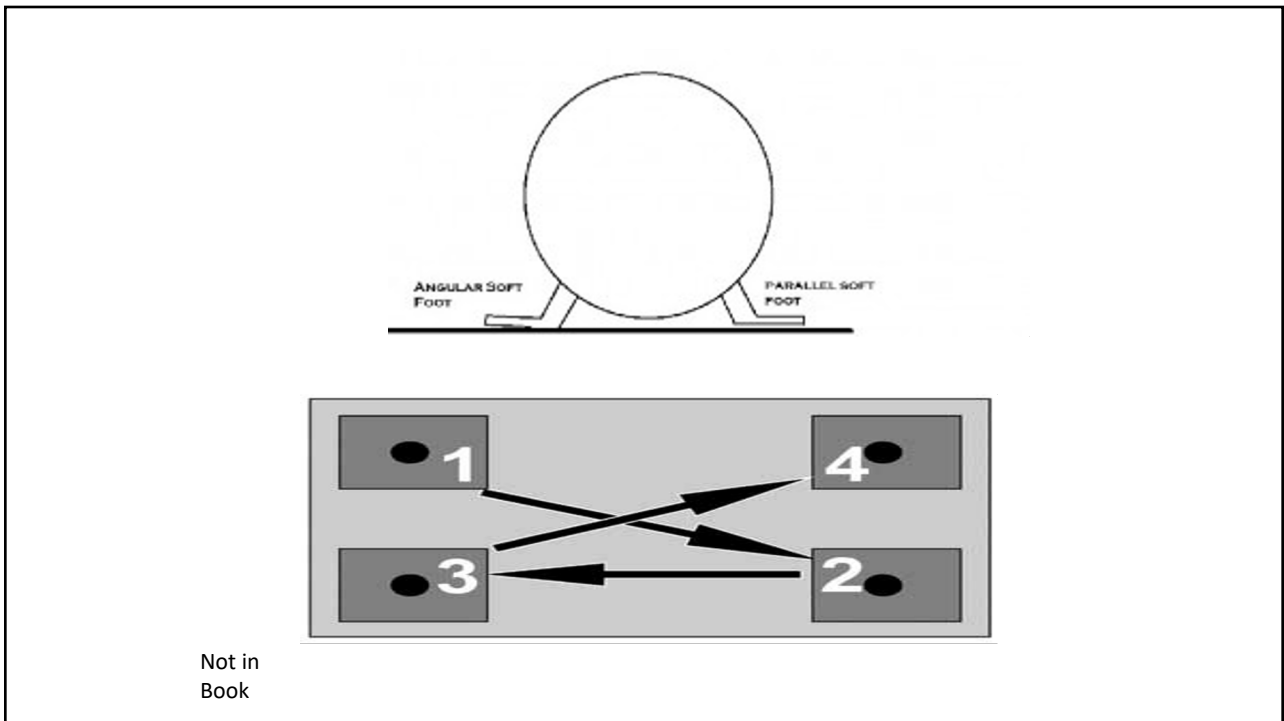
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