

FLSmidth Announces Oil Rate Reduction

Oil lubrication is essential for successful operation of the Ful Vane™ compressor. The standard oil lubrication levels have not been altered for many years. However, FLSmidth has announced that reduced oil lubrication can be successfully applied. The criteria for the reduction in oil usages are outlined in the table below.

FLSmidth has also announced that the proven performance of the B3000 blade, exclusively supplied by FLSmidth for sliding vane compressors, has enabled us to reduce the oil lubrication rate.

The B3000 has also proven to be a longer lasting blade than blade types and the B3000 blade extends the life of the compressor cylinder.

FLS Oil Rate Reduction

The Test

FLSmidth ran tests on two C300's and one CC300 Ful Vane™ Compressors for over twelve months and monitored the operation for an additional year at a local cement production facility.

Based upon these production tests and on the results at another gypsum board production facility in the Chicago area, FLSmidth is now confident that we can make recommendations to our compressor users regarding a reduced rate of oil lubrication usage.

In all cases comparisons were made to the traditional standard levels of oil usage.

Test Conclusions

1. The undercut bore will tend to reduce blade life vs. the circular bore extending blade life.
2. Reduced lubrication rates will reduce HP and CFM by less than 1%.
3. Reduced lubrication rates will not be a detriment to blade life or bore wear in the Ful Vane™ compressor.
4. Our recommendation is that oil lubrication rate reduction to 50% of standard rates is acceptable on Ful Vane™ compressors:
 - a. Operating at standard speeds (RPM).
 - b. Operated with recommended and maintained air intake filtration.
 - c. Operated with recommended and maintained compressor cooling systems and temperatures.

Recommended Lubrication Rates

Compressor Size	(60 Hz) RPM	DROPS PER MINUTE RATE OF FEED						@ 50% LUBRICATION RATES			
		Each Head	Cyl. Int. Flange	Cyl. No. Feeds	Wall Drops Each	Total Drops	Total No. Feeds	Pints (Liters) Per Day	Total Drops	Pints (Liters) Per Day	PPM in Exhaust
15-16	1780	4	4	-	-	12	3	1.23 (.6)	6	.62 (.3)	74
30-40-50	1180	4	4	-	-	12	3	1.23 (.6)	6	.62 (.3)	30
60-70	880	4	4	-	-	12	3	1.23 (.6)	6	.62 (.3)	39
80-100	880	5	5	2	5	25	5	2.57 (1.22)	13	1.34 (.63)	28
110-120	705	5	5	2	5	25	5	2.57 (1.22)	13	1.34 (.63)	21
135-150	705	6	-	3	6	30	5	3.09 (1.5)	15	1.55 (.75)	20
175-200	590	7	-	3	7	35	5	3.60 (1.7)	18	1.85 (.88)	18
225	590	8	-	3	8	40	5	4.11 (1.95)	20	2.06 (.975)	16
250-300	590	7	-	5	7	49	7	5.04 (2.4)	25	2.57 (1.22)	16
350	590	9	-	5	9	63	7	6.48 (3.1)	32	3.29 (1.58)	16
375-400-450	500	11	-	5	11	77	7	7.92 (3.7)	39	4.01 (1.87)	17
508-608	500	11	-	7	11	99	9	10.18 (4.8)	50	5.14 (2.06)	17

Please note the rate reductions at 50% and the low PPM of oil in the exhaust gas of the compressor. The result of this lubrication rate reduction will be a *cleaner operating compressor*.

The important points to remember when reducing the lubrication rates to the Ful Vane is that the pressures do not exceed 30 psi, the compressor is operating at the standard RPM, the lubrication oil is #40 wt. and the cooling system is per FLSmidth's recommendation.



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