TABLE 1: FILTER RECOMMENDATIONS

FILTER AND REPLACEMENT PART ITEM NUMBERS		
Hoffman Model #	Oil Removal Filter	Replacement Generator Kits (5 pc)
VC0916004	VC-OF17	VAGK09
VC1716004	VC-OF17	VAGK15
VC2516004	VC-OF25	VAGK25

TABLE 2: DETERMINING COMPRESSED AIR LINE SIZE

1. Calculate total product compressed air consumption (SCFM, SLPM).
2. Determine length of compressed air line required for connection to main supply.
3. Locate pipe length in left column and read to the right to find the compressed air requirements.
4. Locate pipe size at top of column.

MAXIMUM AIRFLOW (SCFM) THROUGH PIPE AT 5 PSIG PRESSURE DROP (100 PSIG AND 70°F)									
Pipe Length (Feet)	Pipe Size (Nominal) - Schedule 40								
	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2
10	29	65	120	254	480	978	1483	2863	4536
20	21	46	85	180	340	692	1049	2024	3208
30	17	37	70	147	277	565	856	1653	2619
40	15	32	60	127	240	489	792	1431	2268
50	13	29	54	114	215	437	663	1280	2029
60	12	26	49	104	196	399	606	1169	1852
70	11	25	46	96	181	370	561	1082	1715
80	10	23	43	90	170	346	524	1012	1604
90	10	22	40	85	160	326	494	954	1512
100	9	21	38	80	152	309	469	905	1435

MAXIMUM AIRFLOW (SLPM) THROUGH PIPE AT 0.3 BAR PRESSURE DROP (6.9 BAR AND 21°C)									
Pipe Length (Meters)	Pipe Size (Nominal) - Schedule 40								
	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2
3	821	1840	3396	7188	13584	27677	42117	81023	128369
6	594	1302	2406	5094	9622	19584	29687	57279	90786
9	481	1047	1981	4160	7839	15990	24225	46780	74188
12	425	906	1698	3594	6792	13839	20999	40497	64184
15	368	821	1528	3226	6085	12367	18763	36224	57421
18	340	736	1387	2943	5547	11292	17150	33083	52412
21	311	708	1302	2717	5122	10471	15877	30621	48535
24	283	651	1217	2547	4811	9792	14829	28640	45393
27	269	623	1132	2406	4528	9226	13980	26998	42790
31	255	594	1075	2264	4302	8745	13273	25612	40611

Rubber hose maximum airflow rating: 1/2" I.D. rubber hose = 3/8" pipe; 3/4" I.D. rubber hose = 1/2" pipe

87922539 Rev. E

nVent

HOFFMAN

OPERATION & SAFETY INSTRUCTIONS

VCool SYSTEM - UL TYPE 4

Models VC0916004, VC1716004 and VC2516004

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IMPORTANT

Please read all instructions BEFORE attempting to use this product

nVent Hoffman

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GENERAL SAFETY CONSIDERATIONS

WARNING: COMPRESSED AIR COULD CAUSE DEATH, BLINDNESS OR INJURY

1. Do not operate a VCool System at compressed air pressures above 150 psig (10.3 Bar).
2. Do not operate at line temperatures above 110°F (43°C).
3. Avoid direct contact with compressed air.
4. Do not direct compressed air at any person.
5. When using compressed air, wear safety glasses with side shields.

Avertissements pour refroidiseur VCool NEMA 4 Modèles VC0916004, VC1716004 et VC2516004:

ATTENTION! Pour maintenir la notation UL, cet appareil doit être installé debout avec le bouchon argent vers le haut.

ATTENTION! Les surfaces extérieures de l'appareil peuvent être chaudes. Eviter le contact.

INTRODUCTION

A VCool System is designed to use filtered compressed air to cool industrial cabinets without the use of any refrigerants. An internal Vortex tube lowers the temperature and pressure of the compressed air supplied to the enclosure. Hot air in the cabinet is vented to the surroundings through a built in relief valve in the VCool.

COMPRESSED AIR SUPPLY

The compressed air supply must be filtered to remove water and dirt using the supplied 5 micron air filter. Failure to use the filter may cause clogging (and freezing) of the compressed air paths inside the product. Oil removal filter recommendations are given in Table 1.

Filter elements must be changed on a regular basis. Frequency of change is determined by the condition of the compressed air supply. Filters should be installed in the compressed air supply line as close as possible to the product.

The appropriate size of compressed air supply line should be selected to ensure optimal performance of the product. Please refer to Table 2 to determine what supply line size is recommended for your application. Contact nVent Hoffman at phone number 763.422.2211 for further assistance.

MAINTENANCE

VCool Systems have no moving parts and can be disassembled for cleaning.

INSTALLATION AND OPERATION

To maintain the Type 4 rating, Type 4 VCool must be installed in a vertical orientation on a flat horizontal surface at the top of the cabinet.

Vents in the cabinets must be covered and sealed to ensure cooling efficiency and to keep out ambient air. A thermostat is supplied with the VCool System for Type 4 enclosures. The thermostat can be easily adjusted using the temperature indicator dial. All wiring must be installed in an approved conduit.

Installation procedures:

1. Cut a 1-15/16" (49 mm) (1-1/2" knockout size) hole in the enclosure.
2. Insert the VCool into cut-out and secure with the locknut.
3. Attach the cold air muffler to the outlet of the VCool.
4. Perforate the ducting kit with several 1/8" holes and secure to interior of enclosure.
5. Attach the ducting kit to the cold air muffler.
6. Connect compressed air filter, solenoid valve and thermostat to the VCool (wire thermostat directly to solenoid valve). Install the compressed air filter and solenoid valve as close as possible to the VCool, in a location where the temperature does not exceed 125°F (52°C).
7. Connect compressed air supply to the filter.

TROUBLESHOOTING

Insufficient airflow may be caused by the following:

1. Undersized compressed air line size.
2. Compressed air pressure too low.
3. Partial or complete blockage of internal compressed air path, due to dirt.

Insufficient cold air temperature may be caused by:

1. Compressed air line temperature too high.
2. Water vapor in the compressed air supply.
3. Loose cold cap. This may occur if not tightened properly after disassembled for cleaning.

If trouble persists, please contact nVent Hoffman at phone number 763.422.2211.

VCool SYSTEM ASSEMBLY

(Drawing shown below is not to scale)

Models VC0916004, VC1716004 and VC2516004