

INSTALLATION OPERATION MAINTENANCE

- PVC Duct
- PVC Hoods

**DO NOT STORE GRAY PVC
DUCT IN DIRECT SUNLIGHT**



Tuff Duct™



Built to Last

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JOB NO: _____

CUSTOMER: _____

APPLICATION: _____

MAPCO
MIDWEST AIR PRODUCTS CO., INC.

CAUTION

Responsible Personnel must be assigned to the installation, operation and maintenance of your duct system. Read complete manual prior to operating your system. **DO NOT TURN SYSTEM ON WITHOUT LOCKING DAMPERS IN OPEN POSITION AND INSPECTING DUCTWORK AND/OR EQUIPMENT FOR DEBRIS OR OTHER POTENTIAL PROBLEMS.** Observe fan discharge stack immediately after start-up and also on a regular basis thereafter. If excessive misting is present, shut down system immediately and correct the problem. Serious damage could occur to property if system does not function properly.

Before putting system into operation:

1. Check all control and exhaust equipment for proper operation.
2. Plumbing: Make sure all plumbing is installed to code. Check for leaks.
3. **Velocity/CFM:** External static pressure for your system could change with the addition of new or revised duct depending on actual field conditions. Make sure exhaust fan is exhausting proper volume (**CFM**). Deviation from design could cause excessive misting at the mist eliminator and/or scrubber.

Any malfunction of the control equipment should be reported to the manufacturer immediately for repair or service instructions.

Start-Up Service:

In addition to this installation, operation and maintenance manual, MAPCO offers a factory trained service representative to perform, assist or advise in the installation and start-up of this equipment and/or duct system. The cost for this service is charged per man at the following rates:

- | | |
|---|--------------|
| A. First eight (8) hours of a single day | \$50.00/hour |
| B. Overtime hours in a single day | \$65.00/hour |
| C. Sunday or Holiday | \$80.00/hour |
| D. Other expenses such as airfare, hotel, car rental, meals, parts, tax, freight, etc. if applicable will be charged at cost plus 15% administration fee. | |
| E. Company Vehicles | |
| 1. Company car or truck @ \$.50/mile | |
| 2. Company truck and trailer @ \$1.50/mile | |

Note: MAPCO assumes the "End User" is knowledgeable of this equipment and fully understands the risks associated with the installation, operation and maintenance of the equipment purchased.

DUCT INSTALLATION

All duct joints should be tacked and then PVC welded with (3) passes of 5/32" diameter welding rod on all exterior connections.

Hangers and hanger spacing should be per the Sheet Metal and Air Conditioning Contractors National Association (SMACNA), a manual on Thermo-plastic Construction when possible.

System components recommended by Mapco include; clean out doors on main trunklines, drain traps, isolation of the fan inlet and outlet, spring

isolators on fans, stack support independent of the fan, dampers, teflon gaskets or 100% silicone caulk, stainless steel hardware, 360° stainless steel split hangers, flexible hood outlet connections, flanged connections at equipment, clean out doors on all exhaust hoods and reinforcement according to SMACNA recommendations for thermoplastic ductwork.

GLUE JOINTS

TABLE I FLANGE SIZE/ BOLT SIZE/ BOLT SPACING

DUCT DIAMETER OR WIDTH	ANGLE FLANGE	FLAT FLANGE	BOLT SIZE inches	BOLT HOLE DIAMETER inches	BOLT SPACING	
					Round	Rectangular
					No. of Equally Spaced Bolts	Max Center to Center Spacing
6	1-1/2 x 1-1/2 x 3/16	1-1/2 x 3/8	1/4	5/16	6	4
8					4	
8					4	
12					4	
14					4	
16					4	
16					4	
16					4	
20					4	
22					4	
24	4					
26	2 x 2 x 1/4	2 x 3/8	5/16	3/8	24	4
28					4	
30					4	
36					4	
42					4	
48					4	
Above 48					4	

TABLE II ROUND DUCT

DUCT DIAMETER	MINIMUM HANGER MATERIAL	ROD DIAMETER	MAXIMUM CENTER SPACING
18 and below	1-1/4" X 1/8"	3/8"	8'-0"
19 thru 32	1-1/2" X 3/16"	3/8"	8'-0"
33 and above	2" X 3/16"	3/8"	8'-0"

TABLE III RECTANGULAR DUCT

DUCT WIDTH	MINIMUM SIZE OF ANGLE MATERIAL	ROD DIAMETER	MAXIMUM CENTER SPACING
18 and below	1" X 1" X 1/8"	3/8"	8'-0"
19 thru 54	1-1/2" X 1-1/2" X 1/8"	3/8"	8'-0"
55 thru 84	2" X 2" X 1/8"	3/8"	8'-0"
85 and above	2" X 2" X 1/8"	3/8"	5'-0"



TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE
POOR VENTILATION	<ul style="list-style-type: none"> • Riser dampers closed or broken • Hood slot plugged up • Control devise such as scrubber plugged up • No air make-up in building • Improper duct design • Fan belts slipping or broken, inspect fan • Fan wheel deteriorated, inspect fan • Wrong fan motor • Wrong fan RPM
DUCTWORK COLAPSING	<ul style="list-style-type: none"> • Duct material thickness inadequate • Duct not adequately reinforced • Duct plugged with solids or liquid • Poor duct hanger design • Hanger spacing not according to S.M.C.N.A.
DUCTWORK DETERIORATING	<ul style="list-style-type: none"> • Wrong material for application, chemical attack • Dark color used outside, use white or UV stable material • Duct plugged • Poor job of installing
DUCTWORK JOINTS WILL NOT FIT TOGETHER	<ul style="list-style-type: none"> • Duct not checked by fabricator • Duct left out in sun to long, move indoors immediately • Duct shipped in open trailer with no protection from sun

Highest Value
Exhaust and Pollution
Control Equipment

“and the
beat
goes
on”

Corrosion Resistant PVC Duct
Corzan™ Duct
Fiberglass Overlaid Duct



Turnkey
Installations



Corzan™
Duct



Motorized Dampers



Terminator™
Composite Mesh Pad
Exhaust Hoods

