

**INTERNATIONAL ASSOCIATION OF PLUMBING
AND MECHANICAL OFFICIALS**

IAPMO GUIDE CRITERIA

FOR

**VACUUM SEWAGE, GREASE WASTE and/or
CONDENSATE COLLECTION SYSTEMS**

IAPMO IGC 150-2009

1. PURPOSE

- 1.1** The purpose of this IGC is to provide the minimum design and performance criteria for vacuum drainage systems. Such systems shall be divided into three categories - vacuum sewage collection systems, vacuum condensate collection systems and vacuum grease waste collection systems.
- 1.2** The provisions of this IGC are not intended to prevent the use of any alternate material or method of construction, provided any such alternate meets the intent and requirements of this document and changes are amended to this IGC.

2. SCOPE

- 2.1** This IGC applies to vacuum sewage, grease waste and condensate collection systems which are designed to transport clear water and sanitary/sewage wastes, grey water, black water or grease waste using a vacuum collection system. This IGC covers definitions, general requirements, performance requirements, and marking for such systems. Vacuum sewage, grease waste and condensate collection systems are installed as an alternative to gravity plumbing.

3. REFERENCE STANDARDS

- 3.1** The following reference standards are applicable to this document.

ASME A112.19.2	Vitreous China Plumbing Fixtures and Hydraulic Requirements for Water Closets and Urinals
ASME B16.18	Cast Copper Alloy Solder Joint Pressure Fittings
ASME B16.22	Wrought Copper and Copper Alloy Solder Joint Pressure Fittings
ASME B16.23	Cast Copper Alloy Solder Joint Drainage Fittings (DWV)
ASTM B 88	Seamless Copper Water Tube
ASTM D 1785	Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedule 40, 80 and 120
ASTM D 1527	Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe, Schedule 40, 80 and 120
ASTM D 2661	Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste and Vent Pipe and Fittings

Copyright © 2009 by International Association of Plumbing and Mechanical Officials. All rights reserved. Printed in the United States of America. No part of this publication may be reproduced, stored in an electronic retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher.

ASTM D 2665	Poly (Vinyl Chloride) (PVC) Schedule 40 Plastic Drain, Waste and Vent Pipe and Fittings
CSA B45.1	Ceramic Plumbing Fixtures
CSA B45.4	Stainless Steel Plumbing Fixtures
CSA B45.5	Plastic Plumbing Fixtures
CSA B181.1	ABS Drain, Waste, and Vent Pipe and Pipe Fittings
CSA B181.2	PVC Drain, Waste, and Vent Pipe and Pipe Fittings
CSA C22.2 No. 14	Industrial Control Equipment
UL 508	Industrial Control Equipment

4. DEFINITIONS

- 4.1 Buffer/Accumulator** – a device that collects the waste output from fixtures and appliances and, upon filling to a set level, sends a pneumatic or electronic signal to the activator or controller to activate the interface valve to open and remove collected fluids.
- 4.2 Vacuum check valves** – vacuum rated devices used to prevent backflow in the vacuum drainage piping.
- 4.3 Vacuum Discharge Valve / Extraction Valve**– a valve that is located in the piping system, which opens and closes to expose the buffer/accumulator devices to the system vacuum.
- 4.4 Isolation valves** – vacuum rated full port ball valves, which are installed to facilitate system maintenance or remodeling.
- 4.5 Interface valve kit/Lift Kit** – a valve kit consisting of a Vacuum Discharge Valve/Extraction Valve, Activator/Controller and the connecting pneumatic tubing. The Vacuum Interface Kit opens and closes the vacuum Discharge Valve to remove fluids, which gather in the buffer/accumulator.
- 4.6 Vacuum Central/Vacuum Center** – a complete operating assembly consisting of a set of vacuum pumps, collection tank(s), an electrical control panel and required valves and piping.
- 4.7 Vacuum condensate collection systems** – A system comprised of a Vacuum Central, Buffers/Accumulators, Vacuum Collection Piping, Vacuum Interface Valves/Lift Kits, Vacuum Check and Isolation Valves and related controls which is designed to remove condensate and limited waste water from lavatories and sinks and from waste water generating appliances using a differential of pressure (vacuum) and which conveys these wastes to a collection tank(s) for proper discharge into an approved drainage system.
- 4.8 Vacuum drainage piping system** – pipe, tubing and fittings, which is used to convey the collected fluids from the buffers/accumulators to the vacuum central.
- 4.9 Vacuum sewage collection systems** – A system comprised of a Vacuum Central, Buffers/Accumulators, Vacuum Water Closets, Vacuum Interface Valves/Lift Kits, conventional plumbing fixtures, vacuum collection piping and related controls which is designed to remove sanitary wastes from plumbing fixtures using a differential of