

SINTEF Technical Approval

TG 20740

Issued first time: 16.11.2022
 Revised:
 Amended:
 Valid until 01.12.2027
 Provided listed on
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SINTEF confirms that

Jets Vacuum system

has been found to be fit for use in Norway and to meet the provisions regarding product documentation given in the regulation relating to the marketing of products for construction works (DOK) and regulations on technical requirements for building works (TEK), with the properties, fields of application and conditions for use as stated in this document



1. Holder of the approval

Jets Vacuum AS
 Myravegen 1, 6060 Hareid
www.jetshytte.no

2. Product description

Jets Vacuum Toilet is a sanitary system for use in everything from small cabins to larger buildings. Evacuation of faeces from the toilet bowl is done using the supplied pump (Vacuumarator). The toilet can also be used regardless of whether it is connected to the municipal water and sewage network or not. This requires the use of original accessories for greywater purification and collection.

The system can be supplied as a VOD (Vacuum On Demand) or CVS (Constant Vacuum System) system.

- The VOD system can be used for 1-4 toilets.
- The CVS system is used in all major installations.

The Vacuumarator can also operate greywater tanks for use with wash basins, showers, wash basins etc.

Main components included in the approved system are listed in table 1.

3. Fields of application

Jets Vacuum Toilet can be used as:

- Toilet in detached house
- Toilet in cabin
- Drainage from the washbasin, shower and sink in a detached house or cottage.

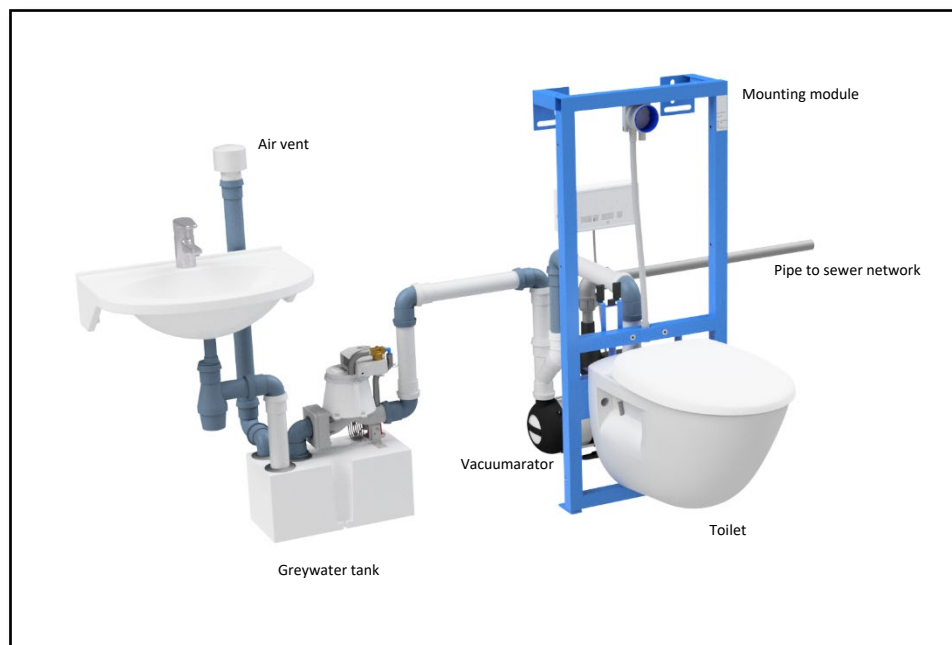


Fig. 1
 Jets Vacuum toilet – principal sketch
 Figure: Jets Vacuum AS

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SINTEF AS
www.sintef.no
 Enterprise register: NO 919 303 808 MVA

4. Properties

Operation

Main functionality is documented in accordance with EN 12109.

Back-flow prevention

The toilet's water supply must be secured against backflow in accordance with EN 1717. This can be done with the help of a DC pipe interrupter, Jets Pipe interrupter. The pipe breaker is documented in accordance with EN 14453.

If the outlet is connected to a drain line or tank located two meters or higher than the pump, a non-return valve is required on the outlet pipe from the pump, see additional information in the installation instructions.

Flushing properties

The toilet's flushing properties are documented in accordance with EN 997:2012

Water tightness

Shut-off valve is documented in accordance with EN 13828.

Supply hoses are documented in accordance with EN 13618.

Drain pipes are documented in accordance with EN 1451.

Acoustic properties

The product is not noise-classified. Vacuumator should be placed in a subordinate, technical room.

Loadability

The mounting module for wall mounting of the toilet can withstand a load of 400 kg.

Table 1

Main components

Component	Model
Control panel	Jets VAC Controller /Jets Control Cabinet
Backflow prevention	Jets Pipe interrupter
Toilet	Jets Charm Jets 61SS Jets 50M Jets 59M Jets Jade Jets Pearl
Pump	Jets C200 Ultima Vacuumator/ Jets Edge Vacuumator
Supply hose/valve	Jets Hose w/ball valve
Waste pipe	Pollo-KAL NG
Mounting module	Ramme for veggtoalett MF691MS
Greywater collection	Jets Gråvannstank GWT

5. Environmental aspects

Substances hazardous to health and environment

The product contains no hazardous substances with priority in quantities that pose any increased risk for human health and environment. Chemicals with priority include CMR, PBT or vPvB substances.

The health and environmental assessment does not include electrical and electronic components

Waste treatment/recycling

The product shall be sorted as porcelain, metal and residual waste. The product shall be delivered to an authorized waste treatment plant for material and energy recovery.

Electrical and electronic components shall be delivered to a facility authorized to handle EE-waste

Environmental declaration

No environmental declaration (EPD) has been worked out for the product.

6. Special conditions for use and installation

Design considerations

Jets Vacuum toilet (VOD system) can be used as a normal toilet in detached houses and cabins. The system has capacity for 1-4 toilets. The maximum pipe length is 12 meters.

Jets Vacuum toilet (CVS system) can be used in larger toilet systems.

Installation

Jets Vacuum toilet must be installed according to the manufacturer's installation instructions. The vacuum toilet must be installed so that any leaking water does not cause damage to other installations or building parts. Leaking water from the toilet with associated parts and equipment must be easily detectable. The water supply must be shut off automatically when a leak is detected. After installation, the toilet with all components must be easily accessible for replacement from the room where it is located.

Maintenance

The toilet can be used and cleaned like traditional toilets. Maintenance of the pump must be done in a de-energized state. Otherwise, please refer to the manufacturer's supplementary maintenance instructions.

Frost protection

Jets Vacuum AS has prepared its own manual and has its own products for frost protection. The manual must be followed to avoid frost damage in areas where the product is exposed to cold.

Fire resistance

Sewer pipes penetrating building parts with fire resistance must be secured so that fire or flue gases do not spread to another fire cell. Penetrations in fire barriers must be carried out in accordance with Byggeforskserien 520.342

7. Factory production control

Jets Vacuum toilet is produced by Jets Vacuum AS, Myravegen 1, 6060 Hareid.

The holder of the approval is responsible for the factory production control in order to ensure that Jets Vacuum toilet is produced in accordance with the preconditions applying to this approval.

The manufacturing of the product(s) and the manufacturer's system for factory production control (FPC) is subject to continuous surveillance in accordance with the contract regarding SINTEF Technical Approval.

The manufacturer has a quality system that is certified in accordance with EN ISO 9001 and an environmental management system that is certified in accordance with EN ISO 14001.

8. Basis for the approval

The evaluation of Jets Vacuum system is based on reports owned by the holder of the approval.

9. Marking

Subcomponents must be marked with the manufacturer, product name/quality and time of production.

Vacuumarator is CE-marked in accordance with the machinery directive.

The approval mark for SINTEF Technical Approval TG 20740 may also be used.

10. Liability

The holder/manufacturer has sole product responsibility according to existing law. Claims resulting from the use of the product cannot be brought against SINTEF beyond the provisions of Norwegian Standard NS 8402

for SINTEF



Hans Boye Skogstad
Approval Manager