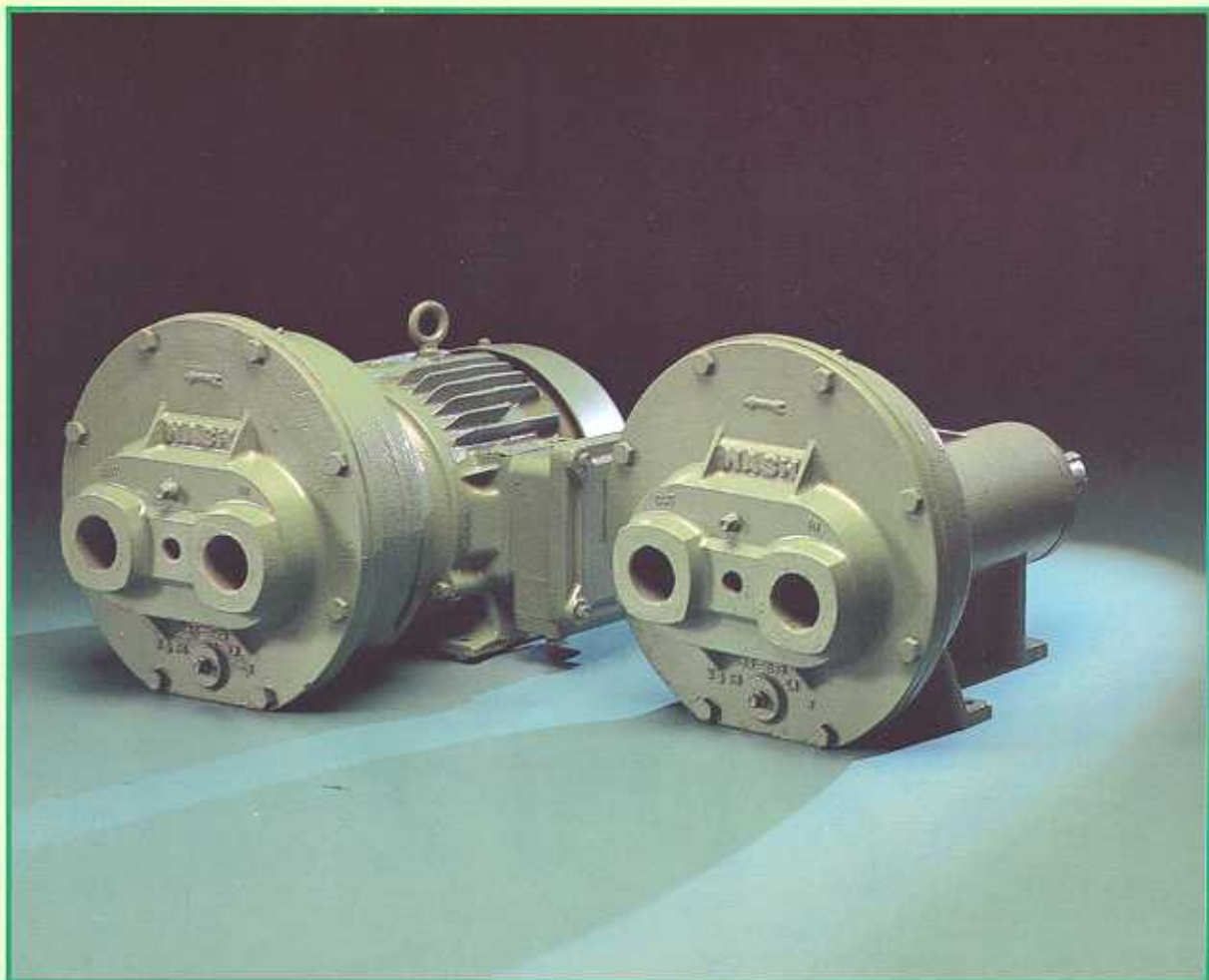


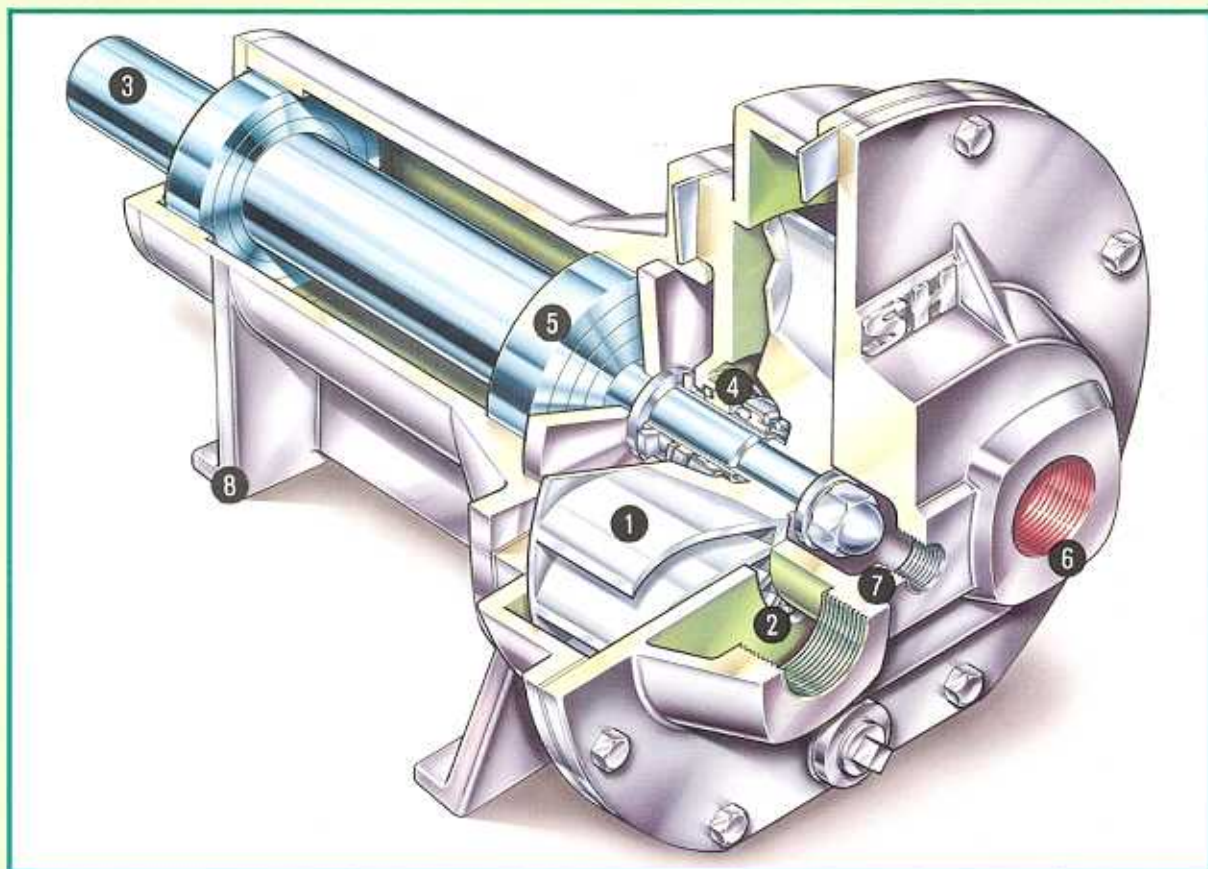
NASH®



MHF/AHF RANGE

NASH[®] RELIABILITY

MHF/AHF RANGE



The Inside Story

1. The precision cast rotor has the resilience to withstand suction line carry over of liquid slugs or semisolids without damage.
2. Refined internal porting configuration and other design features result in a stable capacity performance characteristic up to 300 m bar A and a maximum vacuum attaining ability to 70 m bar A
3. Up to the minute design ensures efficient use of drive motor output.
4. EURO DIN mechanical seal fitted as standard to reduce maintenance requirement.
5. Grease lubricated bearings are external to pumping area and fully protected from service conditions.
6. Minimum space requirements due to compact design with all service connections positioned for easy installation.
7. Internal and external porting below the shaft level ensure good self drainage and prevent flooded restarting.
8. Choice of integrally mounted drive motor or separate bearing pedestal, strong enough to permit vee belt driving without extra support.

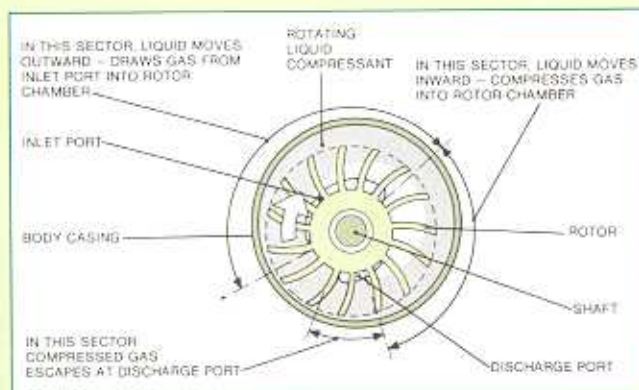
NASH[®]
· E U R O P E ·



Operating Principle

The Nash Vacuum Pump or Compressor needs only one moving part because the functions of mechanical pistons or vanes are performed by a rotating ring of liquid compressant.

A balanced rotor, consisting of a series of equally spaced blades on a central hub and supported at one end by a shroud, is used to rotate the ring of liquid in a cylindrical body casing.



The body is offset from the rotor axis so that the rotating liquid almost fills then partly empties each rotor chamber once each revolution. Air or gas is ported into the sector of the pump where the liquid compressant is starting to recede out of the rotor chamber. As rotation continues past the end of the inlet port, compression begins with the liquid progressively re-entering the rotor chamber, until the discharge port is reached. At this point the air or gas rushes out with some of the liquid compressant and the cycle recommences.

The liquid ring acts not only as a piston to compress the gas but also absorbs the heat produced due to compression, friction and any latent heat from vapour condensation occurring.

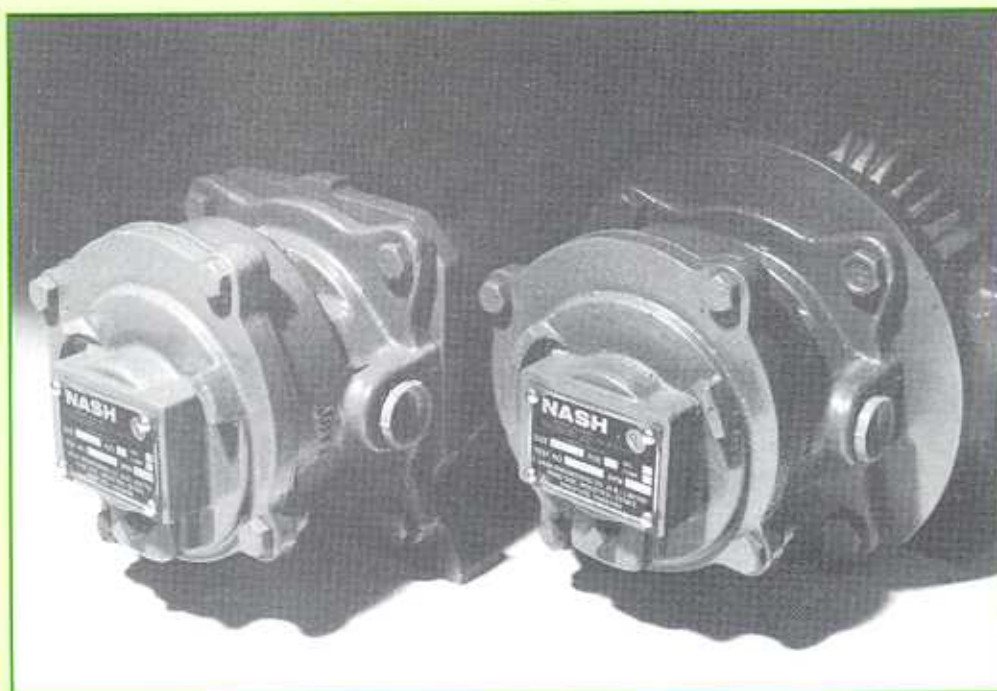
At the discharge, liquid and gas can be easily separated with suitable accessories which can be provided as standard equipment. The discharged liquid may be replaced by once through make-up or cooled through a heat exchanger and recirculated.

By using the Nash Liquid Ring Vacuum Pump process vapours can be condensed and subsequently recovered if required. Furthermore vapour condensation reduces the volume to be handled and effectively enhances the pump capacity.

The liquid compressant also cushions the impact of any liquid or soft solids that may be entrained in the inlet air or gas. Slugs of liquid can be tolerated and they do no damage.

The Nash principle of operation offers a pumping action without pulsation or vibration. The moderate rotational speeds required ensure a quiet and trouble free installation.

NASH®



SIZE MHF/AHF 10 Vacuum Pump

Construction

The MHF pump is motor-mounted with its rotor carried on an extension of the motor shaft, with a drive speed of 2900 rpm. The integrally assembled motor has T.E.F.V. IP55 two pole frame suitable for 3 phase, 50Hz supply.

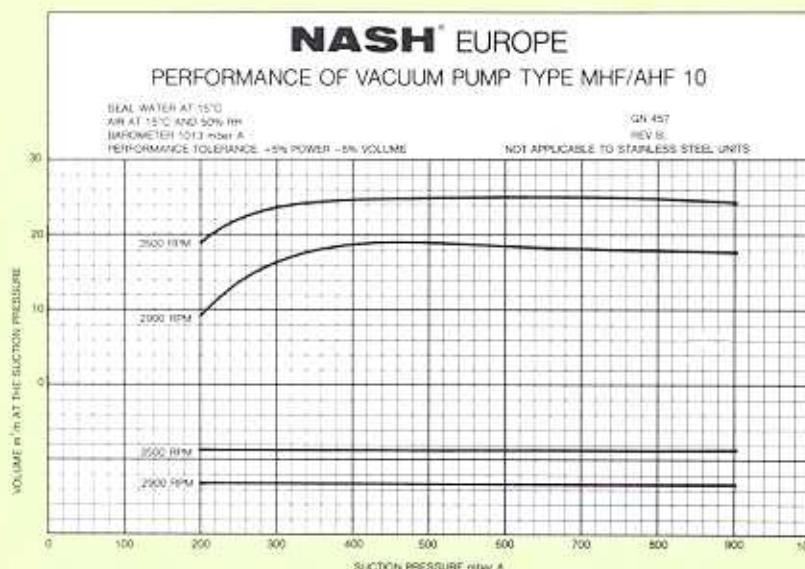
For the AHF pump the rotor shaft is supported by a bearing pedestal on which the pump body is mounted. This allows direct coupling of the pump to a special or non-standard motor if required. Alternatively, the AHF pump can be vee belt driven and with this arrangement it is possible to vary from the normal speed of 2900 rpm to obtain different capacity performance.

Each type is fitted with a EURODIN mechanical seal, and supplied in all bronze construction as standard. Other types of mechanical seal can be fitted to satisfy special duty requirements.

System Choices

Nash MHF/AHF 10 Vacuum Pumps are available with standard accessories or as fully packaged units ready for immediate installation.

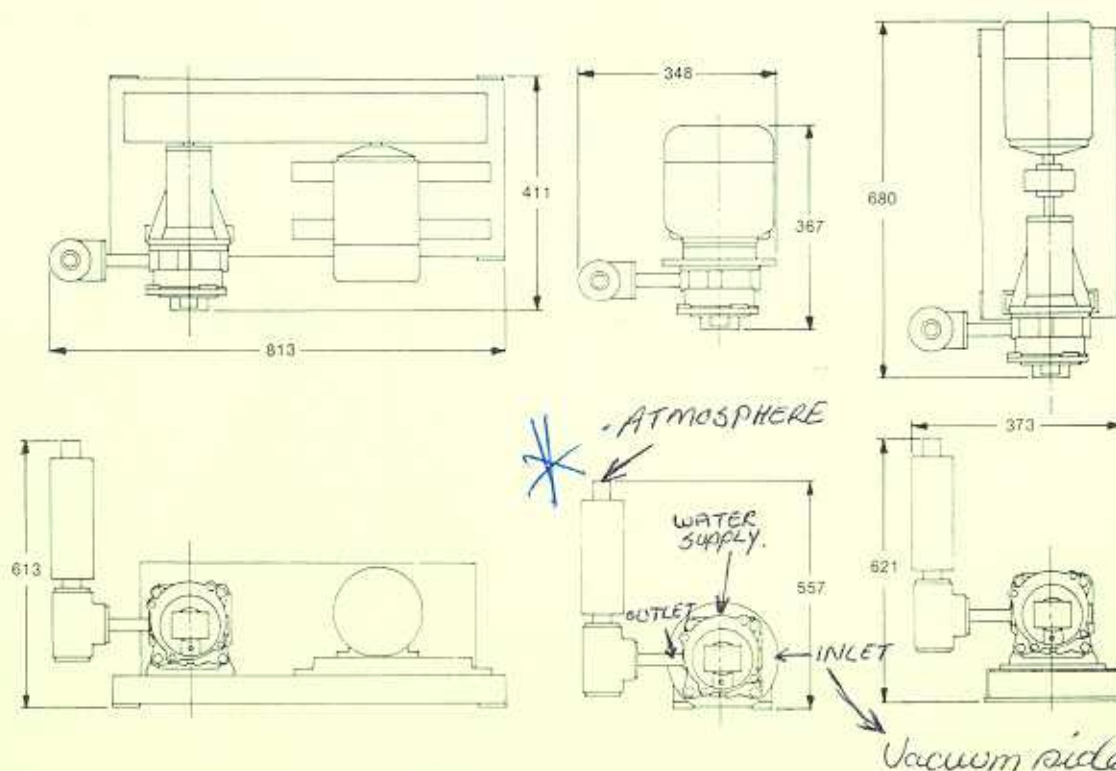
Packaged units can be offered for partial or full recirculation of the seal liquid where conservation is important, and can incorporate heat exchange equipment if required.



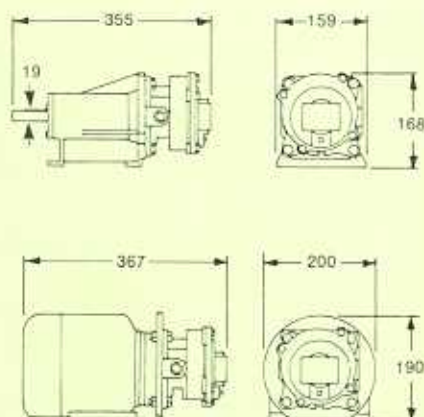
Performance

The performance shown is for standard conditions when pumping air, and is the datum against which each pump is individually tested and guaranteed. Nash vacuum pumps can also be selected to handle a wide variety of other gases and vapours, and you should contact your NASH Sales Office for specific advice.

NASH®
EUROPE



DIMENSIONS IN MILLIMETRES



Connections

Gas inlet $R_c \frac{1}{2}$
 Gas/seal Discharge $R_c \frac{1}{2}$
 Seal Inlet $R_c \frac{1}{4}$

Dimensions

Preliminary Planning Outline Dimensions

The listed dimensions on this page are only to aid planning. Actual layout and space needed can vary.

More precise details than those listed may be obtained from a NASH Sales Office.

Certified drawings can be provided on request at the time of ordering.

Seal Liquid Supply and Disposal

Nash MHF/AHF Vacuum Pumps require a supply of seal liquid compressant which is usually water. To accommodate special applications other more appropriate liquids may be used. For specific advice on the flow rate and type of seal liquid for your application please contact your NASH Sales Office.

The connection point for the seal compressant is at top centre on the pump body casting.

Generally the seal liquid pipework should include a flow control device to optimise seal liquid input to the pump, together with a strainer to prevent possible ingress of debris from the supply source.

A vortex type separator is used on the pump discharge to separate the gas and seal liquid. This gas is then usually exhausted via a simple silencer.

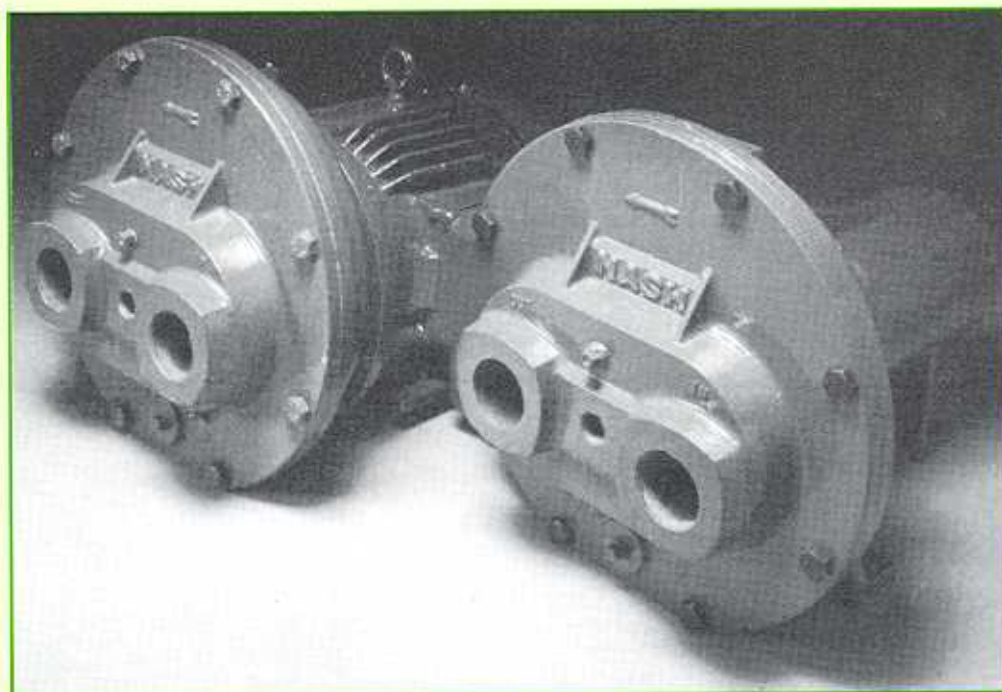
These accessories along with others described below are all available through your NASH Sales Office.

Additional Equipment

Discharge Air/Water Separator
 Seal Flow Control Valve
 Isolating Valve
 Strainer
 Solenoid Operated Valve and Bypass
 Seal Water Pressure Gauge

Baseplate
 Coupling
 Guard
 Vee Belt Drive
 Drive Motor
 Vacuum Gauge

NASH[®]



SIZE MHF/AHF 40 Vacuum Pump

Construction

The MHF pump is motor-mounted with its rotor carried on an extension of the motor shaft, with a drive speed of 1450 rpm. The integrally assembled motor has T.E.F.V. IP55 four pole frame suitable for 3 phase, 50Hz supply.

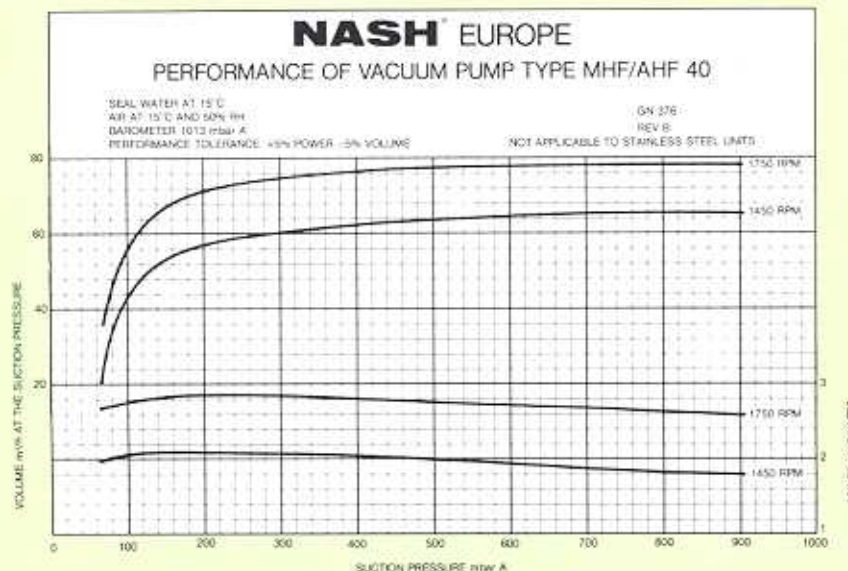
For the AHF pump the rotor shaft is supported by a bearing pedestal on which the pump body is mounted. This allows direct coupling of the pump to a special or non-standard motor if required. Alternatively, the AHF pump can be vee belt driven and with this arrangement it is possible to vary from the normal speed of 1450 rpm to obtain different capacity performance.

Each type is fitted with a EURO DIN mechanical seal, and supplied in cast iron construction as standard. Other types of mechanical seal can be fitted to satisfy special duty requirements.

System Choices

Nash MHF/AHF 40 Vacuum Pumps are available with standard accessories or as fully packaged units ready for immediate installation.

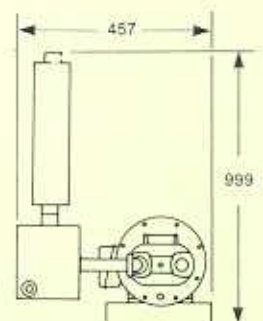
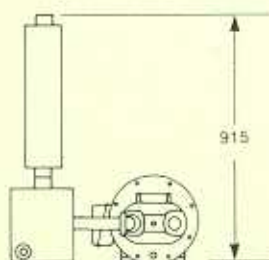
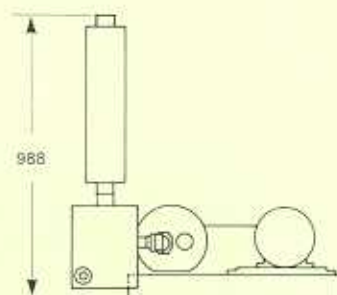
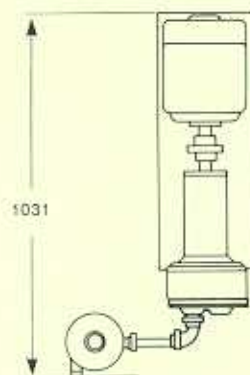
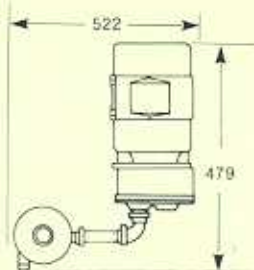
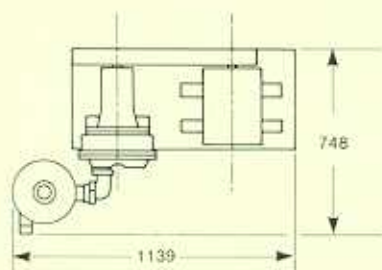
Packaged units can be offered for partial or full recirculation of the seal liquid where conservation is important, and can incorporate heat exchange equipment if required.



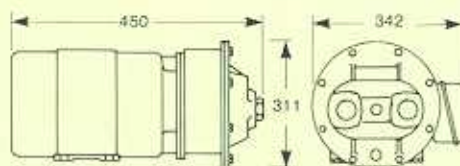
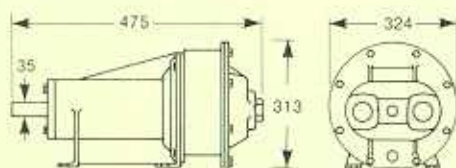
Performance

The performance shown is for standard conditions when pumping air, and is the datum against which each pump is individually tested and guaranteed. Nash vacuum pumps can also be selected to handle a wide variety of other gases and vapours, and you should contact your NASH Sales Office for specific advice.

NASH[®]
EUROPE



DIMENSIONS IN MILLIMETRES



Connections

Gas inlet $R_c 1\frac{1}{2}$

Gas/seal Discharge $R_c 1\frac{1}{2}$

Seal Inlet $R_c \frac{1}{2}$

Dimensions

Preliminary Planning Outline Dimensions

The listed dimensions on this page are only to aid planning. Actual layout and space needed can vary.

More precise details than those listed may be obtained from a NASH Sales Office.

Certified drawings can be provided on request at the time of ordering.

Seal Liquid Supply and Disposal

Nash MHF/AHF Vacuum Pumps require a supply of seal liquid compressant which is usually water. To accommodate special applications other more appropriate liquids may be used. For specific advice on the flow rate and type of seal liquid for your application please contact your NASH Sales Office.

The connection point for the seal compressant is between the two main inlet and discharge connections in the pump head.

Generally the seal liquid pipework should include a flow control device to optimise seal liquid input to the pump, together with a strainer to prevent possible ingress of debris from the supply source.

A vortex type separator is used on the pump discharge to separate the gas and seal liquid. This gas is then usually exhausted via a simple silencer.

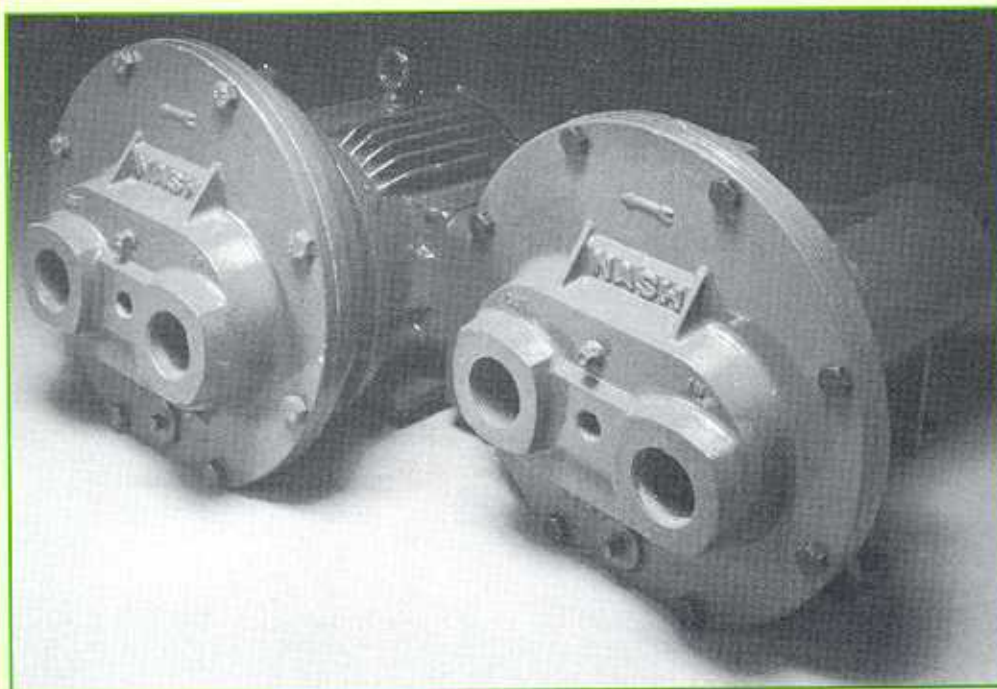
These accessories along with others described below are all available through your NASH Sales Office.

Additional Equipment

Discharge Air/Water Separator
Seal Flow Control Valve
Isolating Valve
Strainer
Solenoid Operated Valve and Bypass
Seal Water Pressure Gauge

Baseplate
Coupling
Guard
Vee Belt Drive
Drive Motor
Vacuum Gauge

NASH®



SIZE MHF/AHF 55 Vacuum Pump

Construction

The MHF pump is motor-mounted with its rotor carried on an extension of the motor shaft, with a drive speed of 1450 rpm. The integrally assembled motor has T.E.F.V. IP55 four pole frame suitable for 3 phase, 50Hz supply.

For the AHF pump the rotor shaft is supported by a bearing pedestal on which the pump body is mounted. This allows direct coupling of the pump to a special or non-standard motor if required. Alternatively, the AHF pump can be vee belt driven and with this arrangement it is possible to vary from the normal speed of 1450 rpm to obtain different capacity performance.

Each type is fitted with a EURODIN mechanical seal, and supplied in cast iron construction as standard. Other types of mechanical seal can be fitted to satisfy special duty requirements.

System Choices

Nash MHF/AHF 55 Vacuum Pumps are available with standard accessories or as fully packaged units ready for immediate installation.

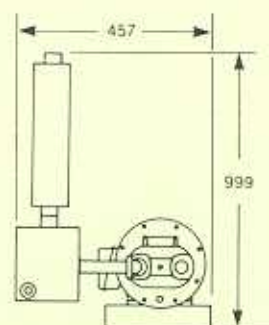
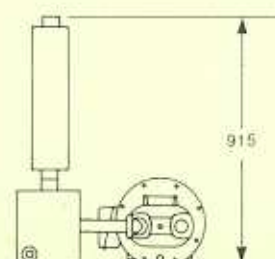
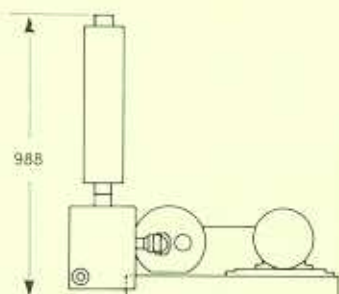
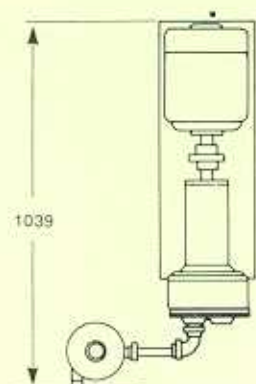
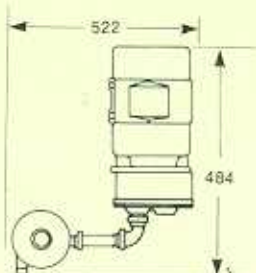
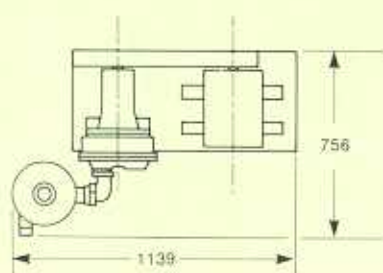
Packaged units can be offered for partial or full recirculation of the seal liquid where conservation is important, and can incorporate heat exchange equipment if required.



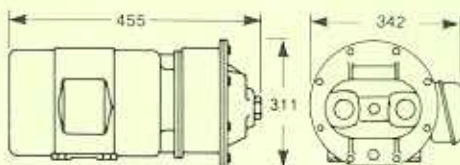
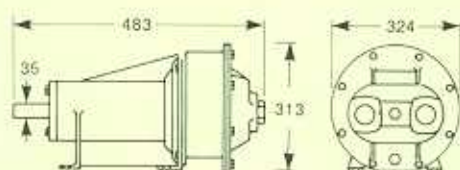
Performance

The performance shown is for standard conditions when pumping air, and is the datum against which each pump is individually tested and guaranteed. Nash vacuum pumps can also be selected to handle a wide variety of other gases and vapours, and you should contact your NASH Sales Office for specific advice.

NASH®
EUROPE



DIMENSIONS IN MILLIMETRES



Connections

Gas inlet $R_c 1\frac{1}{2}$
 Gas/seal Discharge $R_c 1\frac{1}{2}$
 Seal Inlet $R_c \frac{1}{2}$

Dimensions

Preliminary Planning Outline Dimensions

The listed dimensions on this page are only to aid planning. Actual layout and space needed can vary.

More precise details than those listed may be obtained from a NASH Sales Office.

Certified drawings can be provided on request at the time of ordering.

Seal Liquid Supply and Disposal

Nash MHF/AHF Vacuum Pumps require a supply of seal liquid compressant which is usually water. To accommodate special applications other more appropriate liquids may be used. For specific advice on the flow rate and type of seal liquid for your application please contact your NASH Sales Office.

The connection point for the seal compressant is between the two main inlet and discharge connections in the pump head.

Generally the seal liquid pipework should include a flow control device to optimise seal liquid input to the pump, together with a strainer to prevent possible ingress of debris from the supply source.

A vortex type separator is used on the pump discharge to separate the gas and seal liquid. This gas is then usually exhausted via a simple silencer.

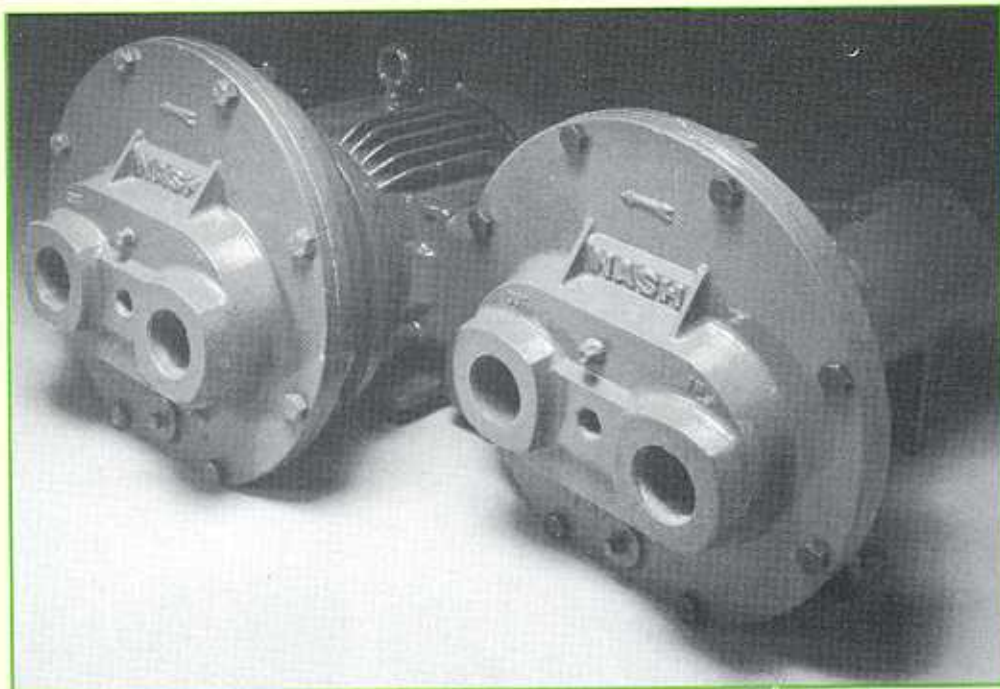
These accessories along with others described below are all available through your NASH Sales Office.

Additional Equipment

Discharge Air/Water Separator
 Seal Flow Control Valve
 Isolating Valve
 Strainer
 Solenoid Operated Valve and Bypass
 Seal Water Pressure Gauge

Baseplate
 Coupling
 Guard
 Vee Belt Drive
 Drive Motor
 Vacuum Gauge

NASH®



SIZE MHF/AHF 70 Vacuum Pump

Construction

The MHF pump is motor-mounted with its rotor carried on an extension of the motor shaft, with a drive speed of 1450 rpm. The integrally assembled motor has T.E.F.V. IP55 four pole frame suitable for 3 phase, 50Hz supply.

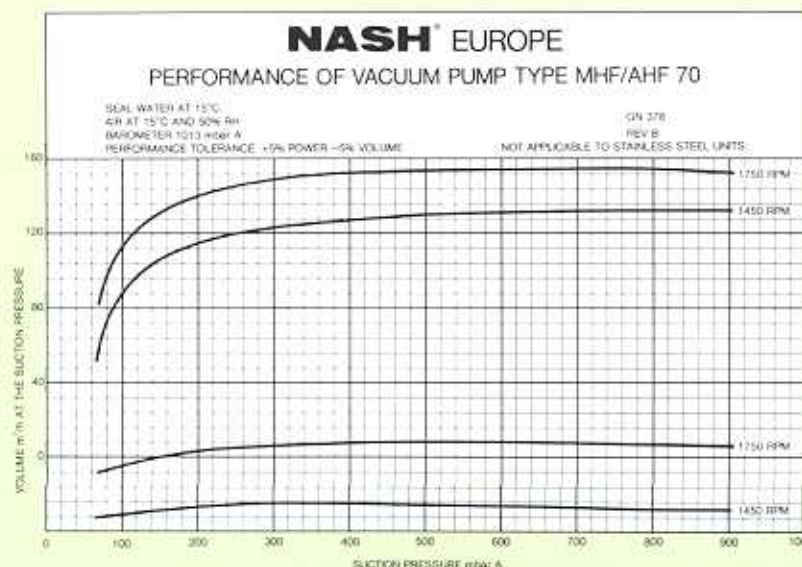
For the AHF pump the rotor shaft is supported by a bearing pedestal on which the pump body is mounted. This allows direct coupling of the pump to a special or non-standard motor if required. Alternatively, the AHF pump can be vee belt driven and with this arrangement it is possible to vary from the normal speed of 1450 rpm to obtain different capacity performance.

Each type is fitted with a EURODIN mechanical seal, and supplied in cast iron construction as standard. Other types of mechanical seal can be fitted to satisfy special duty requirements.

System Choices

Nash MHF/AHF 70 Vacuum Pumps are available with standard accessories or as fully packaged units ready for immediate installation.

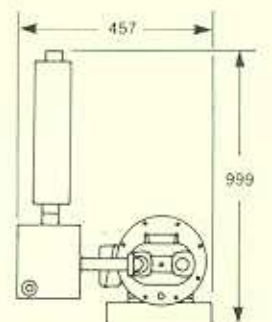
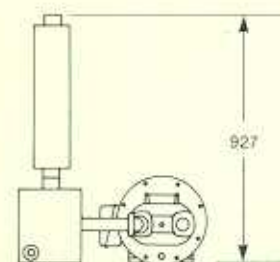
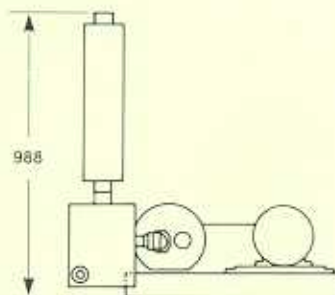
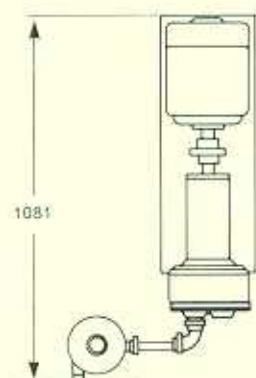
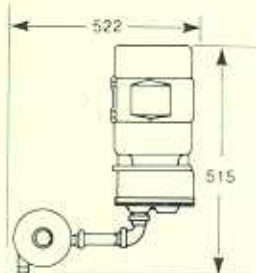
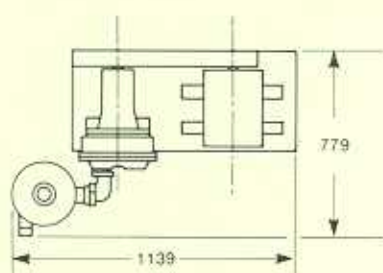
Packaged units can be offered for partial or full recirculation of the seal liquid where conservation is important, and can incorporate heat exchange equipment if required.



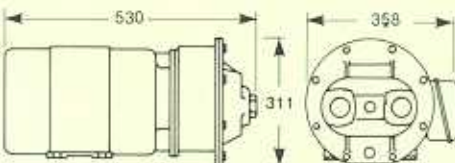
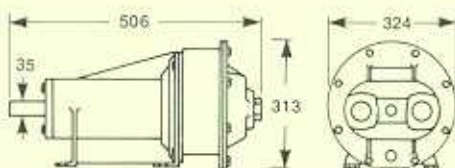
Performance

The performance shown is for standard conditions when pumping air, and is the datum against which each pump is individually tested and guaranteed. Nash vacuum pumps can also be selected to handle a wide variety of other gases and vapours, and you should contact your NASH Sales Office for specific advice.

NASH®
EUROPE



DIMENSIONS IN MILLIMETRES



Connections

Gas inlet $R_c 1\frac{1}{2}$
 Gas/seal Discharge $R_c 1\frac{1}{2}$
 Seal Inlet $R_c \frac{1}{2}$

Dimensions

Preliminary Planning Outline Dimensions

The listed dimensions on this page are only to aid planning. Actual layout and space needed can vary.

More precise details than those listed may be obtained from a NASH Sales Office.

Certified drawings can be provided on request at the time of ordering.

Seal Liquid Supply and Disposal

Nash MHF/AHF Vacuum Pumps require a supply of seal liquid compressant which is usually water. To accommodate special applications other more appropriate liquids may be used. For specific advice on the flow rate and type of seal liquid for your application please contact your NASH Sales Office.

The connection point for the seal compressant is between the two main inlet and discharge connections in the pump head.

Generally the seal liquid pipework should include a flow control device to optimise seal liquid input to the pump, together with a strainer to prevent possible ingress of debris from the supply source.

A vortex type separator is used on the pump discharge to separate the gas and seal liquid. This gas is then usually exhausted via a simple silencer.

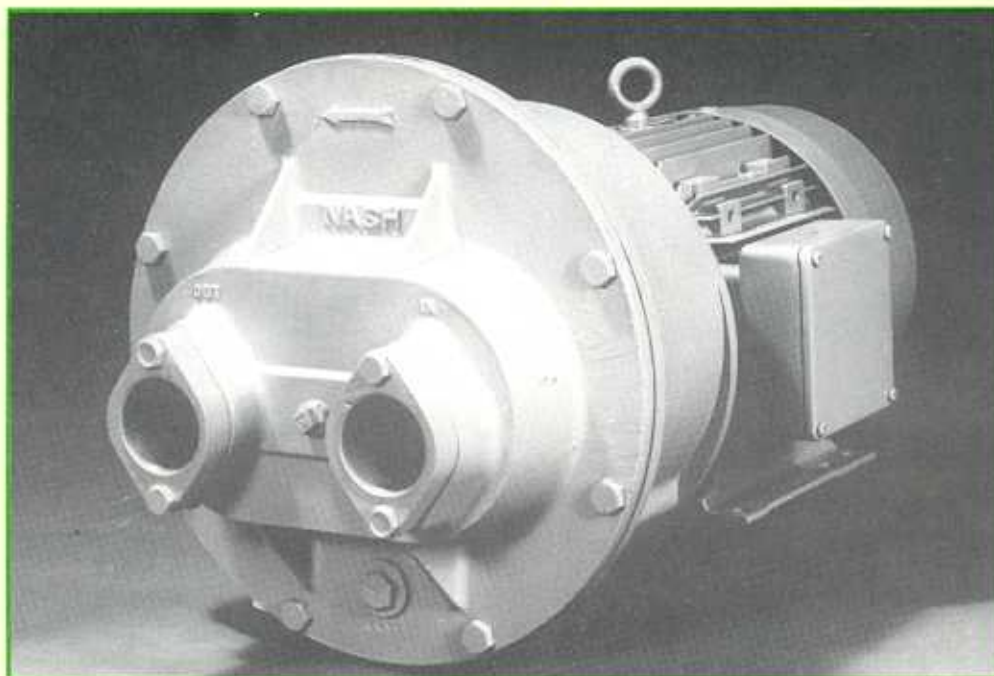
These accessories along with others described below are all available through your NASH Sales Office.

Additional Equipment

Discharge Air/Water Separator
 Seal Flow Control Valve
 Isolating Valve
 Strainer
 Solenoid Operated Valve and Bypass
 Seal Water Pressure Gauge

Baseplate
 Coupling
 Guard
 Vee Belt Drive
 Drive Motor
 Vacuum Gauge

NASH®



SIZE MHF 150 Vacuum Pump

Construction

The MHF 150 pump is motor mounted with its rotor carried on an extension of the motor shaft, with a drive speed of 1450 rpm.

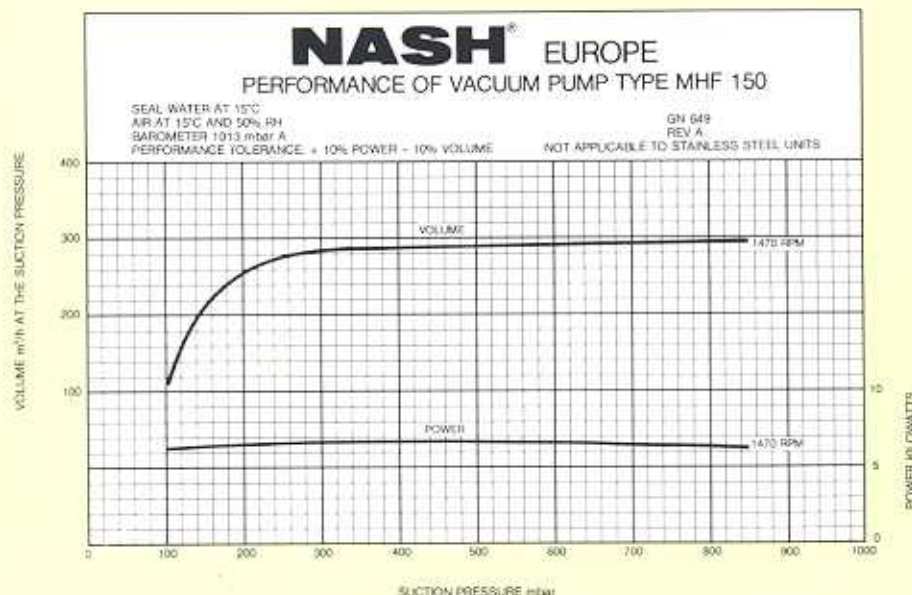
It is fitted with a EURODIN mechanical seal, and supplied in cast iron construction as standard. Other types of mechanical seal can be fitted to satisfy special duty requirements.

The integrally assembled motor has T.E.F.V. IP55 four pole frame suitable for 3 phase, 50 Hz supply.

System Choices

The Nash MHF 150 Vacuum Pump is available with standard accessories or as a fully packaged unit ready for immediate installation.

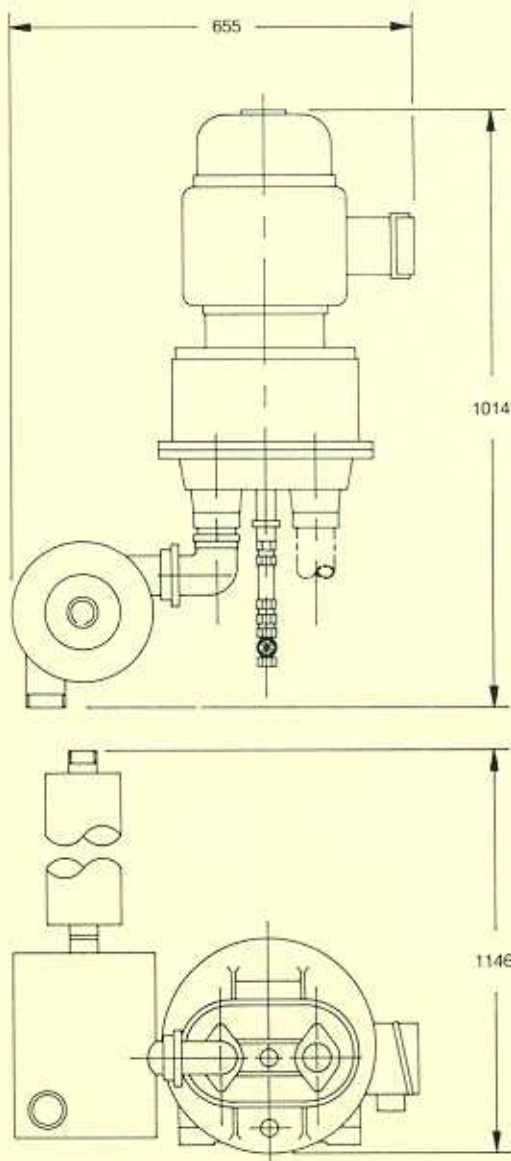
Packaged units can be offered for partial or full recirculation of the seal liquid where conservation is important, and can incorporate heat exchanger equipment if required.



Performance

The performance shown is for standard conditions when pumping air, and is the datum against which each pump is individually tested and guaranteed. Nash vacuum pumps can also be selected to handle a wide variety of other gases and vapours, and you should contact your NASH Sales Office for specific advice.

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· E U R O P E ·



Connections

Gas inlet $R_c 2$
 Gas/seal Discharge $R_c 2$
 Seal Inlet $R_c \frac{1}{2}$

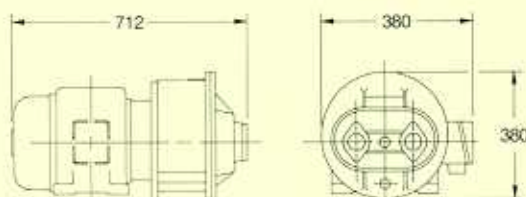
Dimensions

Preliminary Planning Outline Dimensions

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More precise details than those listed may be obtained from a NASH Sales Office.

Certified drawings can be provided on request at the time of ordering.



Seal Liquid Supply and Disposal

Nash MHF vacuum pumps require a supply of liquid compressant which is usually water. To accommodate special applications other more appropriate liquids may be used. For specific advice on the flow rate and type of seal liquid for your application please contact your NASH Sales Office.

The connection point for the seal compressant is between the two main inlet and discharge connections in the pump head.

Generally the seal liquid pipework should include a flow control device to optimise seal liquid input to the pump together with a strainer to prevent possible ingress of debris from the seal source.

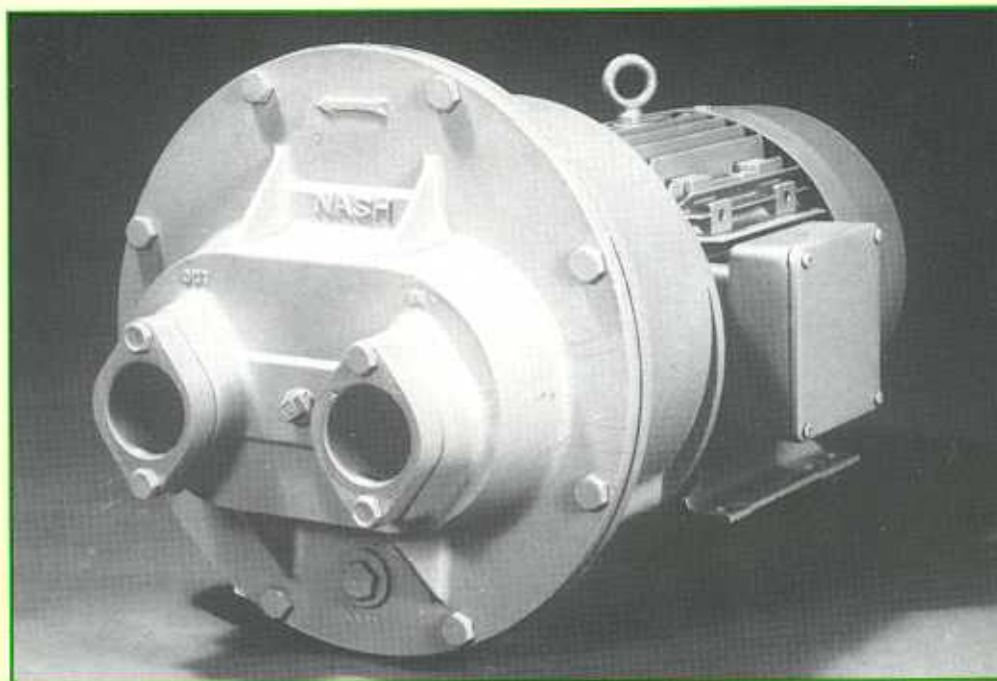
A vortex type separator is used on the pump discharge to separate the gas and seal liquid. Normally no silencer is required when exhausting the gas to atmosphere.

These accessories along with others described below are available through your NASH Sales Office. Use the following list to check your requirements.

Additional Equipment

Discharge Air/Water Separator
 Seal Flow Control Valve
 Isolating Valve
 Strainer
 Solenoid Operated Valve and Bypass
 Seal Water Pressure Gauge

NASH®



SIZE MHF 200 Vacuum Pump

Construction

The MHF 200 pump is motor mounted with its rotor carried on an extension of the motor shaft, with a drive speed of 1450 rpm.

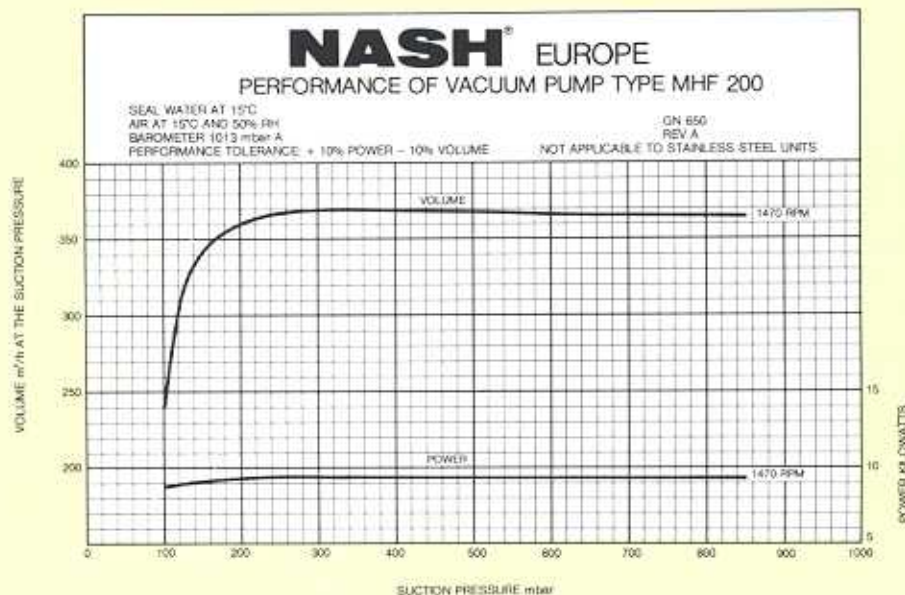
It is fitted with a EURODIN mechanical seal, and supplied in cast iron construction as standard. Other types of mechanical seal can be fitted to satisfy special duty requirements.

The integrally assembled motor has T.E.F.V. IP55 four pole frame suitable for 3 phase, 50 Hz supply.

System Choices

The Nash MHF 200 Vacuum Pump is available with standard accessories or as a fully packaged unit ready for immediate installation.

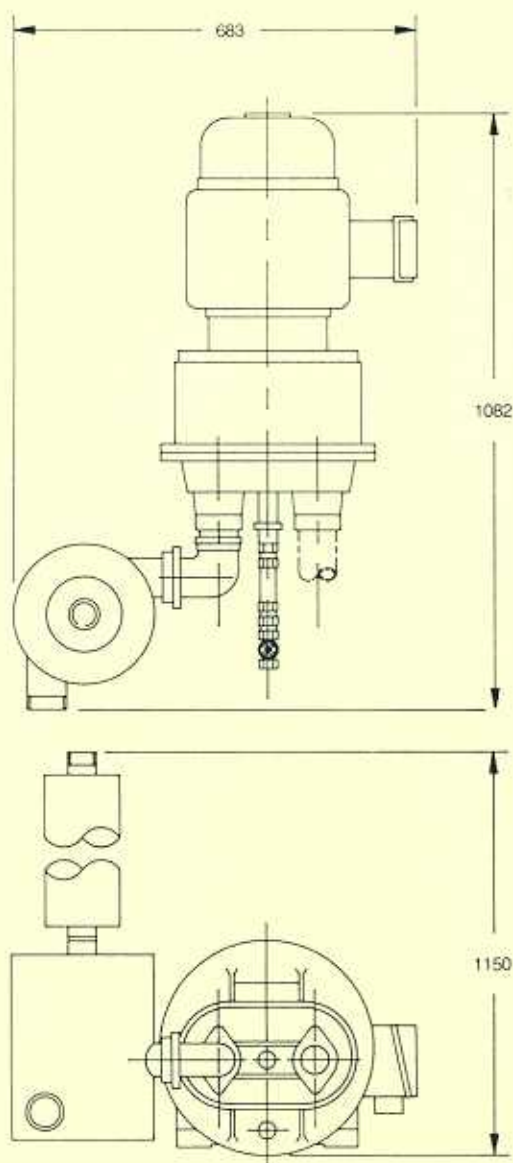
Packaged units can be offered for partial or full recirculation of the seal liquid where conservation is important, and can incorporate heat exchanger equipment if required.



Performance

The performance shown is for standard conditions when pumping air, and is the datum against which each pump is individually tested and guaranteed. Nash vacuum pumps can also be selected to handle a wide variety of other gases and vapours, and you should contact your NASH Sales Office for specific advice.

NASH®
EUROPE



Connections

Gas inlet $R_c 2$
 Gas/seal Discharge $R_c 2$
 Seal Inlet $R_c \frac{1}{2}$

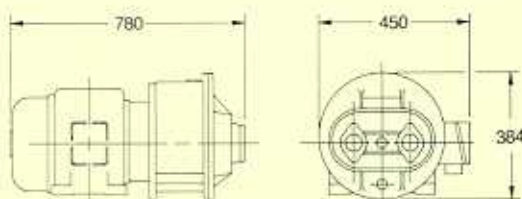
Dimensions

Preliminary Planning Outline Dimensions

The listed dimensions on this page are only to aid planning. Actual layout and space needed can vary.

More precise details than those listed may be obtained from a NASH Sales Office.

Certified drawings can be provided on request at the time of ordering.



Seal Liquid Supply and Disposal

Nash MHF vacuum pumps require a supply of liquid compressant which is usually water. To accommodate special applications other more appropriate liquids may be used. For specific advice on the flow rate and type of seal liquid for your application please contact your NASH Sales Office.

The connection point for the seal compressant is between the two main inlet and discharge connections in the pump head.

Generally the seal liquid pipework should include a flow control device to optimise seal liquid input to the pump together with a strainer to prevent possible ingress of debris from the seal source.

A vortex type separator is used on the pump discharge to separate the gas and seal liquid. Normally no silencer is required when exhausting the gas to atmosphere.

These accessories along with others described below are available through your NASH Sales Office. Use the following list to check your requirements.

Additional Equipment

Discharge Air/Water Separator
 Seal Flow Control Valve
 Isolating Valve
 Strainer
 Solenoid Operated Valve and Bypass
 Seal Water Pressure Gauge