

Medical Vacuum System

mVAC 400v 50Hz - EN ISO 7396-1/HTM 02-01 and HTM2022

SPECIFICATION

The mVAC Medical Vacuum System shall conform to EN ISO 7396-1/ NHS Health Technical Memorandum No. 02-01 (HTM 02-01) or NHS Health Technical Memorandum No. 2022 (HTM 2022)- depending on model selected. The Medical Vacuum System shall ensure the minimum pipeline vacuum level of 450mmHg is maintained at the plant service connection point at the rated volumetric 'free air' flow rate with either two pumps in standby (ISO7396-1/HTM02-01) or with one pump on standby (HTM2022). The bacteria filtration system shall be 'duplexed' such that each filter can be isolated for replacement of the filter cartridge.

Vacuum Pumps

Vacuum pumps shall be air-cooled, oil lubricated rotary vane type suitable for both continuous and frequent start/stop operation at nominal inlet vacuum levels of between 578mmHg and 728mmHg. Composite carbon fibre rotor blades shall be fitted to minimise the cost of maintenance. Rotors shall be driven by directly coupled TEFV, IE3 efficiency electric motors. Pump inlets shall include a wire mesh filter and integral non-return valve to prevent oil suck back and pressure increases in the vacuum system. Each vacuum pump shall have an integral separator filter to ensure a virtually oil-free exhaust. Each pump shall be fitted with anti-vibration pads between the pump foot and mounting frame.

Bacteria Filters

The duplex bacteria filter system shall incorporate high efficiency filter elements using stainless steel cores, epoxy sealed caps and an anti-corrosive coated filter housing. A differential vacuum indicator shall be installed across the filter to indicate blockage. Additional pressure sensors shall be installed at the inlet and outlet of the filter to measure the pressure drop across the filters. Each filter shall be designed and sized to carry the full plant design flow capacity with a pressure drop not exceeding 33mbar (25mmHg). Bacteria Filter elements shall have penetration levels not exceeding 0.005% when tested by the sodium flame method in accordance with BS 3928 and utilising particles in the 0.02 to 2 micron size range. Performance shall be validated by a 3rd party test agency and shall be available upon request. Drain flasks shall be connected to each filter. Drain flasks shall be manufactured from transparent Pyrex® with a polymer coating on the inner and outer surfaces in order to maintain a seal in the event of inadvertent breakage of the Pyrex® flask. All drain flasks shall be suitable for sterilisation and be connected via a manual isolating valve.

Control System

The central control system shall provide an intelligent human machine interface incorporating on board flash memory and realtime clock for recording operational parameters in the in built event log. The central control system shall operate at low voltage and include BMS connection for common fault. Visualisation of plant inputs, outputs and status through a web browser, using a simple Ethernet connection shall be available. The central control unit shall incorporate a user friendly 5.7" high-definition colour display with clear pictograms and LED indicators, providing easy access to system operational information.

Cascading of vacuum pumps shall be achieved by measuring the vacuum level at the plant inlet with a pressure transducer. A mechanical back-up facility shall ensure continued operation in the event of a control system malfunction. The control system shall normally employ automatic rotation of the lead pump to maximise pump life and ensure even wear.

Optional Control Equipment

An advanced monitoring system shall be available to give immediate access to valuable information such as system status, trends, historical data and system performance. Data collected from all pumps shall be made available in real-time visualisation pages and shall be accessed through the hospital's LAN, such that total data security is assured.

The Airconnect™ monitoring system shall also include:

- Logging and trending for an accurate performance status of your system.
- Desktop event notification to avoid constant status checking.
- E-mail and SMS event notification for additional convenience.

Optional Items

There shall be the followings options available for enhanced operation of the vacuum plant system:

- Synthetic oil for increased pump life..
- Painted hot dipped galvanised vessels.
- Oil level switch and integrated ES-VAC alarm for notification of low oil level in the pumps

Vacuum Receiver(s)

Vacuum receiver(s) shall be supplied with relevant test certificates and have a total volume of at least 100% of the plant output in 1 minute in terms of free air aspirated at normal working pressure. Each vacuum receiver shall be painted as normal, with galvanized as option.

Pyrex® is a registered trademark of Corning Glass.

CE Marking

The standard range of BeaconMedæS Medical Vacuum plant systems are 'CE' marked under the Medical Devices Directive 93/42/ EEC with approval from notified body (more detailed information available on request). Under this directive, the specified products are classified as Class IIb Medical Devices.



Installation instruction:

It is advised to always keep a clearance of 500 mm between the plant and a plant room wall and 800 mm between the plant's individual components (vessels and pumps/frames) for servability reasons. The exact dimensions and sizes of the different plant variants (pumps and vessels) can be requested from your sales responsible. In the plant data tables are the reference to the installation proposal documents.

Tank Mounted:**Frame Mounted:****Floor Mounted:**

Data Tables:
Tank Mounted HTM02-01 50 Hz

Model Name	mVAC-250-TH	mVAC-330-TH	mVAC-500-TH
Part Number	8152 1306 00	81521 306 02	8152 1306 04
Plant Output (litres/minute)	250	330	500
System Flow (m³/h - l/m)	40 665	52 865	79 1315
Number of pumps	3	3	3
Number of receivers	1(H)	1(H)	1(H)
Total receiver volume (litres)	500	500	500
Receiver connection(s) (mm)	n/a	n/a	n/a
Inlet/service connection (mm)	54	54	54
Exhaust connection (mm, per pump)	54	54	54
Maximum exhaust back pressure (mbar)	60	60	60
Noise level/pump (dB[A])	67	69	70
Weight (kg)	650	690	750
Motor rating (kW)	1.1	1.5	2.2
Motor cable size (mm²/Amps)	1.5 (13)	1.5 (13)	1.5 (13)
Motor rated supply per pump (A)	10	10	10
FLC per pump (A)	2.8	3.6	5.1
Starting current (A)	14	18	26
Central control supply - single phase (mm²/Amps)	1.5 (5)	1.5 (5)	1.5 (5)
Maximum Inlet Temperature (°C)	40	40	40
Cooling air flow per pump (m³/s)	0.1	0.1	0.2
Installation Proposal	9820 6365 00	9820 6365 00	9820 6365 00

- Plant Output in terms of free air aspired at a vacuum of 450 mmHg at the inlet connection with two pumps on standby and with a tolerance of ±10%.
- System Flow at atmospheric pressure at the inlet connection with two pump on standby and with a tolerance of ±10%.
- Plant dimensions include the required space around the plant for maintenance access.
- Mean sound level measured at a distance of 1m as measured to ISO 2151 / DIN 45635.
- Electrical details are provided for guidance only and are referenced at 40°C ambient temperature. Site conditions may impose a larger cable size. For exact cable sizing, and fuse / MCB ratings, consult a qualified electrical engineer.
- Plant weight includes packaging for shipping purposes.
- Electrical values calculated for the most critical voltage: 380V

Frame Mounted HTM02-01 50 Hz

Model Number	mVAC-660-Q	mVAC-1000-Q	mVAC-1280-T	mVAC-2560-Q	mVAC-3300-Q	mVAC-3840-P	mVAC-4950-P	mVAC-6000-H	mVAC-6600-H
Part Number	8152 1306 06	8152 1306 08	8152 1306 10	8152 1306 12	8152 1306 14	8152 1306 16	8152 1306 18	8152 1306 20	8152 1306 22
Plant Output (litres/minute)	660	1000	1280	2560	3300	3840	4950	6000	6600
System Flow (m ³ /h- l/m)	105 1750	159 2650	203 3380	406 6765	524 8730	609 10150	786 13100	952 15865	1047 17450
Number of pumps	4	4	3	4	4	5	5	6	6
Number of receivers	2	2	3	2	2	2	3	3	4
Total receiver volume (litres)	1000	1000	1500	3000	4000	4000	6000	6000	8000
Receiver connection(s) (mm)	54	54	54	54	76	76	76	76	76
Inlet/service connection (mm)	54	54	54	76	76	76	108	108	108
Exhaust connection (mm, per pump)	54	54	54	54	54	54	54	54	54
Maximum exhaust back pressure (mbar)	60	60	60	60	60	60	60	60	60
Noise level/pump (dB[A])	69	70	72	72	75	72	75	75	75
Weight (kg)	960	1040	1475	2215	2335	2660	3190	3390	3820
Motor rating (kW)	1.5	2.2	5.5	5.5	7.5	5.5	7.5	7.5	7.5
Motor cable size (mm ² /Amps)	1.5 (13)	1.5 (13)	1.5 (13)	1.5 (13)	2.5 (17)	1.5 (13)	2.5 (17)	2.5 (17)	2.5 (17)
Motor rated supply per pump (A)	10	10	20	20	20	20	20	20	20
FLC per pump (A)	3.6	5.1	12	12	14.9	12	14.9	14.9	14.9
Starting current (A)	18	26	60	60	75	60	75	75	75
Central control supply-single phase (mm ² /Amps)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)
Maximum Inlet Temperature (C)	40	40	40	40	40	40	40	40	40
Cooling air flow per pump (m ³ /s)	0.1	0.2	0.3	0.3	0.4	0.3	0.4	0.4	0.4
Installation Proposal	9820 6368 00	9820 6368 00	9820 6369 00	9820 6368 00	9820 6368 00	9820 6368 00	9820 6369 00	9820 6369 00	9820 6370 00

- Plant Output in terms of free air aspired at a vacuum of 450 mmHg at the inlet connection with two pumps on standby and with a tolerance of ±10%.
- System Flow at atmospheric pressure at the inlet connection with two pump on standby and with a tolerance of ±10%.
- Plant dimensions include the required space around the plant for maintenance access.
- Mean sound level measured at a distance of 1m as measured to ISO 2151 / DIN 45635.
- Electrical details are provided for guidance only and are referenced at 40°C ambient temperature. Site conditions may impose a larger cable size. For exact cable sizing, and fuse / MCB ratings, consult a qualified electrical engineer.
- Plant weight includes packaging for shipping purposes.
- Electrical values calculated for the most critical voltage: 380V

Floor Mounted HTM02-01 50 Hz

Model Number	mVAC-530-T-FL	mVAC-970-T-FL	mVAC-1100-T-FL	mVAC-1100-Q-FL	mVAC-1380-T-FL	mVAC-1610-P-FL	mVAC-1680-T-FL	mVAC-2180-Q-FL	mVAC-2470-T-FL	mVAC-3620-T-FL	mVAC-1950-Q-FL	mVAC-2760-Q-FL
Part Number	4233 3000 79	4233 3000 80	4233 3000 81	4233 3000 82	4233 3000 83	4233 3000 84	4233 3000 85	4233 3000 86	4233 3000 87	4233 3000 88	4233 3000 89	4233 3000 90
Plant Output (litres/minute)	530	970	1100	1100	13800	1610	1680	2180	2470	3620	1950	2760
System Flow (m³/h- l/m)	78	143	162	162	2030	237	247	321	363	533	287	406
	1299	2378	2697	2697	33832	3947	4119	5345	6055	8875	4781	6766
Number of pumps	3	3	3	4	3	5	3	4	3	3	4	4
Number of receivers	2	2	3	3	2	2	2	2	2	2	2	2
Total receiver volume (litres)	1000	1000	1500	1500	2000	2000	2000	3000	3000	4000	2000	3000
Receiver connection(s) (mm)	54mm	54mm	54mm	54mm	54mm	54mm	54mm	54mm	54mm	76mm	54mm	54mm
Inlet/service connection (mm)	54mm	54mm	54mm	54mm	76mm	76mm	76mm	76mm	76mm	76mm	76mm	76mm
Exhaust connection (mm, per pump)	42mm	54mm	54mm	42mm	54mm	42mm	54mm	54mm	76mm	76mm	54mm	54mm
Maximum exhaust back pressure (mbar)	60	60	60	60	60	60	60	60	60	60	60	60
Noise level/pump (dB[A])	65	70	72	65	72	65	74	72	77	79	70	72
Motor rating (kW)	2.2	4	4	2.2	5.5	2.2	7.5	4	11	15	4	5.5
Motor cable size (mm²/ Amps)												
Motor rated supply per pump (A)	16	20M25	20M25	16	20M32	16	20M32	20M25	32	40	20M25	20M32
FLC per pump (A)	5.57	11.2	11.2	5.57	12.62	5.57	12.62	11.2	26.05	33.86	11.2	12.62
Starting current (A)	34	57	67.2	33.4	75.7	33.4	75.7	67.2	156.3	203.1	67.2	75.5
Central control supply-single phase (mm²/Amps)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)
Maximum Inlet Temperature (C)	40	40	40	40	40	40	40	40	40	40	40	40
Cooling air flow per pump (m³/s)	0.26	0.48	0.48	0.26	0.7	0.3	0.7	0.5	1.3	1.8	0.48	0.7
Installation Proposal	2212 0201 00	2212 0201 02	2212 0201 02	2212 0201 00	2212 0201 03	2212 0201 01	2212 0201 03	2212 0201 04	2212 0201 09	2212 0201 10	2212 0201 03	2212 0201 05

1. Data measured and stated in accordance with Pneurop 6602 with two pump on standby and with an air intake at 1013 mbar, 20°C. Flow rates stated are subject to a tolerance of +/- 10%.
2. These are typical figures and may vary with the specific motor used. Consult the motor nameplate for exact figures.
3. Measured in free field conditions at a distance of 1m in accordance with ISO 2151/DIN 45635. Subject to a tolerance of +/- 3 dB.
4. Dimensions do not include the recommended 500 mm clearance for access and servicing.
5. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
6. Electrical values calculated for the most critical voltage: 380V

Note:

For plant above 500l/min all inter connecting pipework between components to be made on site and provided by the installer. All control and starter cubicles will be supplied with connecting wire harnesses.

Floor Mounted HTM02-01 50 Hz

Model Number	mVAC-3370-Q-FL	mVAC-4940-Q-FL	mVAC-7250-Q-FL	mVAC-4140-P-FL	mVAC-5050-P-FL	mVAC-7410-P-FL
Part Number	4233 3000 91	4233 3000 92	4233 3000 93	4233 3000 94	4233 3000 95	4233 3000 96
Plant Output (litres/minute)	3370	4940	7250	4140	5050	7410
System Flow (m³/h- l/m)	496	727	1066	609	743	1090
	8262	12111	17774	10150	12381	18166
Number of pumps	4	4	4	5	5	5
Number of receivers	2	2	3	2	2	3
Total receiver volume (litres)	4000	6000	9000	6000	6000	9000
Receiver connection(s) (mm)	76mm	76mm	76mm	76mm	76mm	76mm
Inlet/service connection (mm)	76mm	108mm	108mm	108mm	108mm	108mm
Exhaust connection (mm, per pump)	54mm	76mm	76mm	54mm	54mm	76mm
Maximum exhaust back pressure (mbar)	60	60	60	60	60	60
Noise level/pump (dB[A])	74	77	79	72	74	77
Motor rating (kW)	7.5	11	15	5.5	7.5	11
Motor cable size (mm²/ Amps)						
Motor rated supply per pump (A)	20M32	32	40	20M32	20M32	40
FLC per pump (A)	17.51	26.05	33.86	12.62	17.51	26.05
Starting current (A)	105.1	156.3	203.1	75.7	105.1	156.3
Central control supply-single phase (mm²/Amps)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)
Maximum Inlet Temperature (C)	40	40	40	40	40	40
Cooling air flow per pump (m³/s)	0.7	1.3	1.8	0.7	0.7	1.3
Installation Proposal	2212 0201 06	2212 0201 11	2212 0201 12	2212 0201 07	2212 0201 07	2212 0201 12

1. Data measured and stated in accordance with Pneurop 6602 with two pump on standby and with an air intake at 1013 mbar, 20°C. Flow rates stated are subject to a tolerance of +/- 10%.
2. These are typical figures and may vary with the specific motor used. Consult the motor nameplate for exact figures.
3. Measured in free field conditions at a distance of 1m in accordance with ISO 2151/DIN 45635. Subject to a tolerance of +/- 3 dB.
4. Dimensions do not include the recommended 500 mm clearance for access and servicing.
5. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
6. Electrical values calculated for the most critical voltage: 380V

Note:

For plant above 500l/min all inter connecting pipework between components to be made on site and provided by the installer. All control and starter cubicles will be supplied with connecting wire harnesses.

HTM02-01 50Hz - NoVessels

Model Number	mVAC-250-TNV	mVAC-330-TNV	mVAC-500-TNV	mVAC-660-QNV	mVAC-1000-QNV	mVAC-1280-TNV	mVAC-2560-QNV	mVAC-3300-QNV	mVAC-3840-PNV	mVAC-4950-PNV	mVAC-6000-HNV	mVAC-6600-HNV
Part Number	8152 1306 48	81521 306 49	8152 1306 50	8152 1306 51	8152 1306 52	8152 1306 53	8152 1306 54	8152 1306 55	8152 1306 56	8152 1306 57	8152 1306 58	8152 1306 59
Plant Output (litres/minute)	250	330	500	660	1000	1280	2560	3300	3840	4950	6000	6600
System Flow (m ³ /h- l/m)	40 665	52 865	79 1315	105				524				1047
Number of pumps	3	3	3	4	4	3	4	4	5	5	6	6
Number of receivers	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total receiver volume (litres)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Receiver connection(s) (mm)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Inlet/service connection (mm)	54	54	54	54	54	54	76	76	76	108	108	108
Exhaust connection (mm, per pump)	54	54	54	54	54	54	54	54	54	54	54	54
Maximum exhaust back pressure (mbar)	60	60	60	60	60	60	60	60	60	60	60	60
Noise level/pump (dB[A])	67	69	70	69	70	72	72	75	72	75	75	75
Motor rating (kW)	1.1	1.5	2.2	1.5	2.2	5.5	5.5	7.5	5.5	7.5	7.5	7.5
Motor cable size (mm ² /Amps)	1.5 (13)	1.5 (13)	1.5 (13)	1.5 (13)	1.5 (13)	1.5 (13)	1.5 (13)	2.5 (17)	1.5 (13)	2.5 (17)	2.5 (17)	2.5 (17)
Motor rated supply per pump (A)	10	10	10	10	10	20	20	20	20	20	20	20
FLC per pump (A)	2.8	3.6	5.1	3.6	5.1	12	12	14.9	12	14.9	14.9	14.9
Starting current (A)	14	18	26	18	26	60	60	75	60	75	75	75
Central control supply-single phase (mm ² /Amps)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)
Maximum Inlet Temperature(C)	40	40	40	40	40	40	40	40	40	40	40	40
Cooling air flow per pump (m ³ /s)	0.1	0.1	0.2	0.1	0.2	0.3	0.3	0.4	0.3	0.4	0.4	0.4

- Plant Output in terms of free air aspired at a vacuum of 450 mmHg at the inlet connection with two pumps on standby and with a tolerance of ±10%.
- System Flow at atmospheric pressure at the inlet connection with two pump on standby and with a tolerance of ±10%.
- Plant dimensions include the required space around the plant for maintenance access.
- Mean sound level measured at a distance of 1m as measured to ISO 2151 / DIN 45635.
- Electrical details are provided for guidance only and are referenced at 40°C ambient temperature. Site conditions may impose a larger cable size. For exact cable sizing, and fuse / MCB ratings, consult a qualified electrical engineer.
- Plant weight includes packaging for shipping purposes.
- Electrical values calculated for the most critical voltage: 380V

Tank Mounted HTM2022 50 Hz

Model Number	mVAC-250-DH	mVAC-500-TH	mVAC-660-TH	mVAC-1000-TH
Part Number	8152 1306 82	8152 1306 84	8152 1306 86	8152 1306 88
Plant Output (litres/minute)	250	500	660	1000
System Flow (m ³ /h- l/m)	40 665	79 1315	105 1750	159 2650
Number of pumps	2	3	3	3
Number of receivers	1(H)	1(H)	1(H)	1(H)
Total receiver volume (litres)	500	500	1000	1000
Receiver connection(s) (mm)	n/a	n/a	n/a	n/a
Inlet/service connection (mm)	54	54	54	54
Exhaust connection (mm, per pump)	54	54	54	54
Maximum exhaust back pressure (mbar)	60	60	60	60
Noise level/pump (dB[A])	67	67	69	70
Weight (kg)	540	650	800	860
Motor rating (kW)	1.1	1.1	1.5	2.2
Motor cable size (mm ² /Amps)	1.5 (13)	1.5 (13)	1.5 (13)	1.5 (13)
Motor rated supply per pump (A)	10	10	10	10
FLC per pump (A)	2.8	3.6	5.1	3.6
Starting current (A)	14	18	26	18
Central control supply-single phase (mm ² /Amps)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)
Maximum Inlet Temperature (°C)	40	40	40	40
Cooling air flow per pump (m ³ /s)	0.1	0.1	0.1	0.2
Installation Proposal-Part Number	9820 6364 00	9820 6365 00	9820 6365 00	9820 6365 00

- Plant Output in terms of free air aspired at a vacuum of 450 mmHg at the inlet connection with one pump on standby and with a tolerance of ±10%.
- System Flow at atmospheric pressure at the inlet connection with one pump on standby and with a tolerance of ±10%.
- Plant dimensions include the required space around the plant for maintenance access.
- Mean sound level measured at a distance of 1m as measured to ISO 2151 / DIN 45635.
- Electrical details are provided for guidance only and are referenced at 40°C ambient temperature. Site conditions may impose a larger cable size. For exact cable sizing, and fuse / MCB ratings, consult a qualified electrical engineer.
- Plant weight includes packaging for shipping purposes.
- Electrical values calculated for the most critical voltage: 380V.

Frame Mounted HTM2022 50 Hz

Model Number	mVAC-1500-Q	mVAC-2560-T	mVAC-3840-Q	mVAC-4950-Q	mVAC-6000-P	mVAC-6600-P	mVAC-8000-H
Part Number	8152 1306 90	8152 1306 92	8152 1306 94	8152 1306 96	8152 1306 98	8152 1307 00	8152 1307 02
Plant Output (litres/minute)	1500	2560	3840	4950	6000	6600	8000
System Flow (m ³ /h- l/m)	238 3965	406 6765	609 10150	786 13100	952 15865	1047 17450	1270 21165
Number of pumps	4	3	4	4	5	5	6
Number of receivers	1	2	2	3	3	4	4
Total receiver volume (litres)	1500	3000	4000	6000	6000	8000	8000
Receiver connection(s) (mm)	54	54	76	76	76	76	76
Inlet/service connection (mm)	54	54	76	108	108	108	108
Exhaust connection (mm, per pump)	54	54	54	54	54	54	54
Maximum exhaust back pressure (mbar)	60	60	60	60	60	60	60
Noise level/pump (dB(A))	70	72	72	75	75	75	75
Weight (kg)	1120	2105	2560	3090	3340	3770	4080
Motor rating (kW)	2.2	5.5	5.5	7.5	7.5	7.5	7.5
Motor cable size (mm ² /Amps)	1.5 (13)	1.5 (13)	1.5 (13)	2.5 (17)	2.5 (17)	2.5 (17)	2.5 (17)
Motor rated supply per pump (A)	10	20	20	20	20	20	20
FLC per pump (A)	5.1	12	12	14.9	14.9	14.9	14.9
Starting current (A)	26	60	60	75	75	75	75
Central control supply-single phase (mm ² /Amps)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)
Maximum Inlet Temperature (°C)	40	40	40	40	40	40	40
Cooling air flow per pump (m ³ /s)	0.2	0.3	0.3	0.4	0.4	0.4	0.4
Installation Proposal	9820 6367 00	9820 6368 00	9820 6368 00	9820 6369 00	9820 6369 00	9820 6370 00	9820 6370 00

- Plant Output in terms of free air aspired at a vacuum of 450 mmHg at the inlet connection with one pump on standby and with a tolerance of $\pm 10\%$.
- System Flow at atmospheric pressure at the inlet connection with one pump on standby and with a tolerance of $\pm 10\%$.
- Plant dimensions include the required space around the plant for maintenance access.
- Mean sound level measured at a distance of 1m as measured to ISO 2151 / DIN 45635.
- Electrical details are provided for guidance only and are referenced at 40°C ambient temperature. Site conditions may impose a larger cable size. For exact cable sizing, and fuse / MCB ratings, consult a qualified electrical engineer.
- Plant weight includes packaging for shipping purposes.
- Electrical values calculated for the most critical voltage: 380V.

Floor Mounted HTM2022 50Hz

Model Number	mVAC-1950-T-FL	mVAC-2180-T-FL	mVAC-2760-T-FL	mVAC-3370-T-FL	mVAC-4940-T-FL	mVAC-4140-Q-FL	mVAC-5050-Q-FL	mVAC-7410-Q-FL	mVAC-6730-P-FL	mVAC-9880-P-FL
Part Number	4233 3000 60	4233 3000 61	4233 3000 62	4233 3000 63	4233 3000 64	4233 3000 65	4233 3000 66	4233 3000 67	4233 3000 68	4233 3000 69
Plant Output (litres/minute)	1950	2180	2760	3370	4940	4140	505	7410	6730	9880
System Flow (m³/h- l/m)	287	321	406	496	727	609	74	1090	990	1453
	4781	5345	6766	8262	12111	10150	1238	18166	16499	24222
Number of pumps	3	3	3	3	3	4	4	4	5	5
Number of receivers	2	2	2	2	2	2	2	3	3	4
Total receiver volume (litres)	2000	3000	3000	4000	6000	6000	6000	9000	9000	12000
Receiver connection(s) (mm)	54mm	54mm	54mm	76mm	76mm	76mm	76mm	76mm	76mm	76mm
Inlet/service connection (mm)	76mm	76mm	76mm	76mm	108mm	108mm	108mm	108mm	108mm	108mm
Exhaust connection (mm, per pump)	54mm	54mm	54mm	54mm	76mm	54mm	54mm	76mm	54mm	76mm
Maximum exhaust back pressure (mbar)	60	60	60	60	60	60	60	60	60	60
Noise level/pump (dB[A])	70	70	72	74	77	72	72	77	74	77
Motor rating (kW)	4	4	5.5	7.5	11	5.5	7.5	11	7.5	11
Motor cable size (mm²/ Amps)										
Motor rated supply per pump (A)	20M25	20M25	32	40	32	20M32	20M32	40	20M32	40
FLC per pump (A)	11.2	11.2	12.62	17.51	26.05	12.62	17.51	26.05	17.51	26.05
Starting current (A)	67.2	67.2	75.7	105.1	156.3	75.7	105.1	156.3	105.1	156.3
Central control supply-single phase (mm²/Amps)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)
Maximum Inlet Temperature (C)	40	40	40	40	40	40	40	40	40	40
Cooling air flow per pump (m³/s)	0.48	0.48	0.7	0.7	1.3	0.7	0.7	1.3	0.7	1.3
Installation Proposal	2212 0201 03	2212 0201 04	2212 0201 05	2212 0201 06	2212 0201 11	2212 0201 07	2212 0201 07	2212 0201 12	2212 0201 08	2212 0201 12

1. Data measured and stated in accordance with Pneurop 6602 with one pump on standby and with an air intake at 1013 mbar, 20°C. Flow rates stated are subject to a tolerance of +/- 10%.
2. These are typical figures and may vary with the specific motor used. Consult the motor nameplate for exact figures.
3. Measured in free field conditions at a distance of 1m in accordance with ISO 2151/DIN 45635. Subject to a tolerance of +/- 3 dB.
4. Dimensions do not include the recommended 500 mm clearance for access and servicing.
5. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
6. Electrical values calculated for the most critical voltage: 380V.

Note:

For plant above 500l/min all inter connecting pipework between components to be made on site and provided by the installer. All control and starter cubicles will be supplied with connecting wire harnesses.

HTM 2022 50Hz - No Vessels

Model Number	mVAC-250-DNV	mVAC-500-TNV	mVAC-660-TNV	mVAC-1000-TNV	mVAC-1500-QNV	mVAC-2560-TNV	mVAC-3840-QNV	mVAC-4950-QNV	mVAC-6000-PNV	mVAC-6600-PNV	mVAC-8000-HNV
Part Number	8152 1307 26	8152 1307 27	8152 1307 28	8152 1307 29	8152 1307 30	8152 1307 31	8152 1307 32	8152 1307 33	8152 1307 34	8152 1307 35	8152 1307 36
Plant Output (litres/minute)	250	500	660	1000	1500	2560	3840	4950	6000	6600	8000
System Flow (m ³ /h- l/m)	40 665	79 1315	105 1750	159 2650	238 3965	406 6765	609 10150	786 13100	952 15865	1047 17450	1270 21165
Number of pumps	2	3	3	3	4	3	4	4	5	5	6
Number of receivers	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total receiver volume (litres)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Receiver connection(s) (mm)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Inlet/service connection (mm)	54	54	54	54	54	54	76	108	108	108	108
Exhaust connection (mm, per pump)	54	54	54	54	54	54	54	54	54	54	54
Maximum exhaust back pressure (mbar)	60	60	60	60	60	60	60	60	60	60	60
Noise level/pump (dB(A))	67	69	69	70	70	72	72	75	75	75	75
Motor rating (kW)	1.1	1.1	1.5	2.2	2.2	5.5	5.5	7.5	7.5	7.5	7.5
Motor cable size (mm ² /Amps)	1.5 (13)	1.5 (13)	1.5 (13)	1.5 (13)	1.5 (13)	1.5 (13)	1.5 (13)	2.5 (17)	2.5 (17)	2.5 (17)	2.5 (17)
Motor rated supply per pump (A)	10	10	10	10	10	20	20	20	20	20	20
FLC per pump (A)	2.8	2.8	5.1	3.6	5.1	12	12	14.9	14.9	14.9	14.9
Starting current (A)	14	14	26	18	26	60	60	75	75	75	75
Central control supply-single phase (mm ² /Amps)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)	1.5 (5)
Maximum Inlet Temperature (C)	40	40	40	40	40	40	40	40	40	40	40
Cooling air flow per pump (m ³ /s)	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.4

- Plant Output in terms of free air aspired at a vacuum of 450 mmHg at the inlet connection with one pump on standby and with a tolerance of $\pm 10\%$.
- System Flow at atmospheric pressure at the inlet connection with one pump on standby and with a tolerance of $\pm 10\%$.
- Plant dimensions include the required space around the plant for maintenance access.
- Mean sound level measured at a distance of 1m as measured to ISO 2151 / DIN 45635.
- Electrical details are provided for guidance only and are referenced at 40°C ambient temperature. Site conditions may impose a larger cable size. For exact cable sizing, and fuse / MCB ratings, consult a qualified electrical engineer.
- Plant weight includes packaging for shipping purposes.
- Electrical values calculated for the most critical voltage: 380V