

Oil-injected Medical Air Plant

HTM 02-01 / HTM 2022 • 50Hz • Rotary Screw

Medical Air Plants are intended to provide a continuous supply of medical quality air conforming to the European Pharmacopoeia medicinal air monograph (ref. 1238), for respiratory use in healthcare facilities. The system shall be duplex such that the supply is maintained in single fault condition. Standby compressors shall be provided such that the specified volumetric flow is achieved with either one reserve compressor on standby where an automatic backup manifold of sufficient capacity is provided, or two compressors on standby if the backup manifold is unable to deliver the medical air system design flow. Medical Air Plants shall comply with the United Kingdom Department of Health (DoH) publication HTM 02-01, NHS Model Engineering Specification C11 and ISO 7396-1. All equipment supplied is Electromagnetic Compatible (EMC) certified as defined in EN 61000-6-2/EN 61326-1 and HTM 02-01 section 2.42 and HTM 06-01 section 12.

Pneumatech Medical Gas Solutions Medical Air Plants are CE marked to the Medical Device Directive 93/42/EEC under the auspices of notified body no. 0088 (Lloyd's). Under this directive, Medical Air Plants are classified as Class IIb Medical Devices.

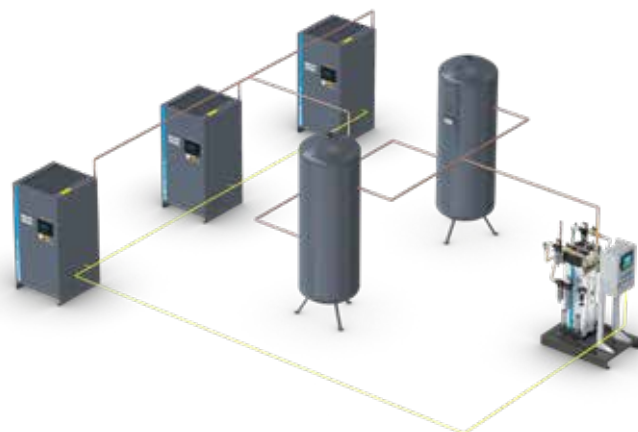
Compressors

Compressors shall be Atlas Copco GA-MED or GA-VSD+ MED oil injected rotary screw compressors suitable for both continuous and frequent start/stop operation at a nominal outlet pressure of 750kPa (7.5bar), 1000 kPa (10 bar) or 1300 kPa (13 bar) gauge. Compressors shall be supplied with a block and fin style after cooler with a dedicated quiet running fan to maximise cooling and efficiency. A multistage oil separator capable of achieving 2ppm oil carry over shall be fitted to minimise contamination and maintenance. Minimum IE3 (IEC 60034) rated, IP55 class F electric motors shall be used and incorporate maintenance-free bearings. Motors with lower efficiency ratings are not acceptable.

If not variable speed, then compressor shall be provided with Star-Delta (Wye-Delta) motor starters and each motor shall be protected by a thermal overload relay. The incoming supply shall terminate at a door interlock isolator. An ammeter shall be fitted to each starter panel indicating the current drawn by the motor.

Purification Module

The duplexed filter and dryer module shall incorporate high efficiency oil coalescing filters, heatless regenerative desiccant dryers (consisting of chamber controlled desiccant towers for ease of service and to prevent desiccant powder molecules escaping the chamber and impacting surrounding valves and orifice operations), impregnated activated carbon filters and bacterial filters.



The performance of the filters shall be according to below specifications:

- Oil coalescing high efficiency filter: ISO8573-1 Air Purity Class 1, tested according to ISO 8573-2 & ISO 12500-1;
- Activated carbon filter: max remaining total oil content of 0,003 mg/m³, tested according to ISO 8573-5 & ISO12500-2;
- Bacterial filter: particle removal 0.01 micron.

Contaminants in the delivered air downstream of the bacterial filters shall be maintained at levels below those shown in the table below:

Contaminant	Threshold
H ₂ O	67ppm v/v (-46°C atm. dp)
CO	5 ppm v/v
CO ₂	500 ppm v/v
SO ₂	1 ppm v/v
NO	2 ppm v/v
NO ₂	2 ppm v/v
Dry particulates	ISO 8573-1 particle purity Class 2
Oil (droplet or mist)	0.1 mg/m ³

Tested under factory and site reference conditions.

The purification module shall have the water concentration in the delivered air continuously monitored by a dedicated sensor providing an alarm indication for high dew point on the respective dryer. The outlet air pressure shall be regulated through a duplex arrangement of pressure regulators and protected from over-pressure by duplex pressure safety valves.

Dryer Purge Control

The dryer control system shall incorporate an adjustable purge valve with patented rotating design for accurate flow control. As well as a Purge Saver Energy Management system that freezes the regeneration of the desiccant in the inactive tower once adequate dew point is reached. Only when the dewpoint level in the active tower deteriorates to an unacceptable level, will the intelligent controller switch towers. This shall be achieved by including associated software in the dryer controller to effectively manage the system.

Plant Control Unit

The central control system shall provide an intelligent human machine interface incorporating on board flash memory and real-time 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 plant fault, plant emergency, reserve fault and pressure 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 3.5" high- definition colour display with clear pictograms and LED indicators, providing easy access to system operational information. The software shall be developed according to EN 62304. 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 compressor to maximise life and ensure even wear.

Digital Dew Point Display

The purification module shall incorporate a dew point hygrometer with an accuracy of $\pm 3^{\circ}\text{C}$ in the range $+20$ to -100°C atmospheric dew point and 4-20 mA analogue output. Aluminium oxide or palladium wire sensors are not acceptable. An alarm condition shall trigger on the dryer control panel if the dew point exceeds a -46°C atmospheric (67 ppm v/v) set point. Voltage-free contacts shall be included to enable the dew point alarm signal (Plant Emergency) to be connected to a central medical gas alarm system and/or building management system (BMS).

Air Receiver(s)

Air receivers shall comply with BS EN 286-1;A2 2005 and be manufactured from heavy gauge fusion welded steel with a minimum wall thickness of 5 mm and dished ends with a minimum wall thickness of 6 mm. Total air receiver volume shall be at least 50% of the plant capacity in 1 minute in terms of free air delivered at normal working pressure. Air receivers shall be connected to the dryer in parallel such that operation of the system can continue during receiver isolation for periodic internal inspection. The receiver assembly shall be fitted with a pressure safety valve set at 11 or 14bar. The receiver shall be further protected by a fusible plug and include a 100mm nominal diameter pressure gauge complete with isolating valve.

Each air receiver shall be fitted with an electrically actuated drain valve with integral solid-state timer providing user adjustable opening time and actuation frequency. The valve shall be fitted with a manual test button and LED indication

lights to show operating status. The drain shall be protected from blockage by debris with a strainer. Float type mechanically actuated drain valves are not acceptable. Drain valves to be connected locally to a single-phase supply.

Optional Items

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

- OCS water/oil separator for the air plant system;
- Phase sequence relays that prevent unintentional reverse operation of the compressors (standard for GA15-26 MED & GA7-37 VSD+ MED compressors);
- Synthetic oil for increased compressor life;
- Tropical thermostatic sensors for countries with high humidity;
- Heavy duty inlet filters for compressors installed in areas of highly concentrated dust levels;
- 380V 60Hz versions are available on request.

Note: Interconnecting pipework between components to be made on site and provided by the installer. Controller CAN cables are provided as a 10m assembly with each compressor which can be shortened on site if required.

Combined Air Plant Sizing Guide

In HTM02-01, the relative size of receiver capacity and compressor capacity on surgical air or combined medical/ surgical air systems changes according to the design flow rate. In order to correctly calculate the receiver capacity and compressor capacity, both the medical and surgical design flow-rates (DF's) are required. It should be noted that for all combined air systems, an additional duplex regulating station (ordered separately) is needed to supply the medical air pipeline.

	Design Flow (l/min)	Value 'A' FAD(l)
Surgical Air Compressors	<500	0.33 x DF
	500 - 3500	0.66 x DF
	>3500	0.5 x DF

Table 1: Surgical Air Flow Rate Multiplier Value 'A'

	Design Flow (l/min)	Value 'B' FAD(l)
Surgical Air Receivers	<500	1 x 200% x DF
	500 - 2000	2 x 66.6% x DF
	2001 - 3500	2 x 50% x DF
	>3500	3 x 33.3% x DF

Table 2: Surgical Air Receiver Multiplier Value 'B'

Example

Flow Rate and Dryer Sizing

Medical Air DF = 1550 l/min (FAD) (4 Bar) Surgical Air DF = 1550 l/min (FAD) (7 Bar)

Combined/total DF = 3100 l/min (FAD) (11 Bar high pressure system)

A dryer greater than 3100 l/min outlet flow should be selected

(Outlet flow is the inlet flow minus purge losses)

= PureMed35 inlet flow 3710 l/min, outlet flow 3328 l/min

Flow Rate and Compressor Sizing

From Table 1 surgical air DF is between 500-3500 l/min, so the multiplying factor 'A' = 0.66

Compressor flow rate = Med. DF + (Surg. DF x A)

= 1550 + (1550 x 0.66)

= 1550 + 1023

= 2573 l/min

We also need to add the purge losses to the compressor output. For additional purge consumption use: -

Inlet - outlet = purge losses l/min

= 3710 - 3328 = 382 l/min

Compressors should be selected with a flow rate greater than

2573 l/min + 382 l/min = 2955 l/min

Flow Rate and Dryer Sizing

From Table 2 surgical air DF is between 500-2000 l/min, so the multiplying factor 'B' = 2 x 2/3

Capacity = (Med. DF x 0.5) + (Surg. DF x B)

= (1550 x 0.5) + (1550 x 2 x 2/3)

= 775 + 2046

= 2821 litres

A combination of receivers with a minimum number of 2 should be selected

Selected receiver capacity = 3000 litres (2 x 1500 litre)

If no standard model is available for selection from the standard range a bespoke configuration of dryer, compressors and receivers are available and can be quoted by our sales and sales support teams.

Receiver selection table

Receiver Capacity (litres)	250	500	1000	1500	2000	3000
Maximum working pressure (bar)	11	11	11	11	11	11
Receiver Dimensions (diameter, height) mm	457/2020	610/2105	762/2630	900/2670	1067/2775	1220/3050
Receiver Weight (kg)	155	195	380	520	800	1000
Receiver Inlet/Outlet (mm)	28	28	42	42	42	42
Receiver Part Number	8102340570	8102340574	8102340576	8102340578	8102340580	8102340582
Receiver Kit *	8102340590	8102340594	8102340596	8102340598	8102340600	8102340602

*Receiver kit complete with pressure safety valve, zero loss electronic drain valve (with isolation and bypass valve), pressure gauge (with isolation valve), pressure relief valve, fusible plug, copper inlet/outlet connection pipes (each with isolation valve).

Receiver Capacity (litres)	250	500	1000	1500	2000	3000
Maximum working pressure (bar)	14	14	14	14	14	14
Receiver Dimensions (diameter, height) mm	457/2050	610/2105	762/2650	915/2650	1067/2725	1220/3200
Receiver Weight (kg)	160	200	500	575	950	1400
Receiver Inlet/Outlet (mm)	28	28	42	42	42	42
Receiver Part Number	8102340571	8102340575	8102340577	8102340579	8102340581	8102340583
Receiver Kit *	8102340591	8102340595	8102340597	8102340599	8102340601	8102340603

For single vessel applications, lockable bypass line valves are available.

28mm lockable line valve - 6000723

42mm lockable line valve - 6000725

*Output flow rate includes calculated purge lost during the regeneration process.

Purification Module selection table

Model Name	PureMED 21	PureMED 35	PureMED 52	PureMED 71	PureMED 104	PureMED 142
Inlet flow (l/min) at 7.5 bar	1274	2124	3115	4248	6230	8495
Outlet flow (l/min) at 4 bar line pressure *	1045	1742	2554	3483	5109	6966
Inlet flow (l/min) at 10 bar	1756	2917	4276	5833	8523	11638
Outlet flow (l/min) at 7 bar line pressure *	1527	2535	3715	5068	7402	10109
Inlet flow (l/min) at 13 bar	2237	3710	5465	7447	10902	14866
Outlet flow (l/min) at 10 bar line pressure *	2008	3328	4904	6682	9781	13337
Footprint L x W x H (mm)	1050 x 750 x 1580	1050 x 750 x 1580	1050 x 750 x 1830	1050 x 750 x 1960	1100 x 1080 x 1680	1100 x 1080 x 2060
Dryer weight (kg)	250	290	310	380	520	670
Inlet/outlet connection (mm)	28	28	28	28	42	42
Supply voltage (v)	115/230	115/230	115/230	115/230	115/230	115/230
Supply frequency (Hz)	50/60	50/60	50/60	50/60	50/60	50/60
Central control supply – single phase (mm2/Amps)	1.5 (1)	1.5 (1)	1.5 (1)	1.5 (1)	1.5 (1)	1.5 (1)
Part number – Dryer @ 4 bar outlet	8102371019	8102371025	8102371031	8102371034	8102371040	8102371043
Part number – Dryer @ 7 bar outlet	8102371020	8102371026	8102371032	8102371035	8102371041	8102371044
Part number – Dryer @ 10 bar outlet	8102371021	8102371027	8102371033	8102371036	8102371042	8102371045

*Output flow rate includes calculated purge lost during the regeneration process.



GA MED (Rotary Screw) Oil-injected Compressor Selection Table – Fixed Speed 50Hz

Model Name	GA5 MED	GA7 MED	GA11 MED	GA15 MED	GA18 MED	GA22 MED	GA26 MED
Output flow (l/min) 7.5 bar variant *	900	1308	1842	2736	3384	3870	4362
Output flow (l/min) 10 bar variant *	702	1032	1560	2268	2814	3246	3960
Output flow (l/min) 13 bar variant *	504	852	1320	1938	2364	2850	3360
Footprint L x W x H (mm)	1140 x 700 x 1240	1140 x 700 x 1240	1140 x 700 x 1240	1280 x 780 x 1240	1280 x 780 x 1240	1280 x 780 x 1240	1280 x 780 x 1240
Compressor weight (kg)	270	284	310	455	464	480	490
Service connection (mm)	22	22	22	22	22	22	22
Noise level (dB[A])	60	61	62	65	67	68	69
Maximum ambient temperature (°C)	46	46	46	46	46	46	46
Supply voltage (v)	400	400	400	400	400	400	400
Supply frequency (Hz)	50	50	50	50	50	50	50
Nominal motor rating (kW)	5	7	11	15	18	22	26
Full load current per compressor (A)	17	22	32	33.3	40.7	47.4	57
Starting current (A)	98.6	131	188	109.89	138.38	180.12	210.9
Cooling air flow per compressor (m³/s)	0.8	0.8	1	0.5	0.7	1.1	1.1
Part number - 7.5 bar	8153 0344 86	8153 0344 94	8153 0345 02	8153 6162 82	8153 6163 16	8153 6163 40	8153 6163 73
Part number - 10 bar	8152 0341 89	8153 0342 05	8153 0342 21	8153 6162 90	8153 6163 24	8153 6163 57	8153 6163 81
Part number - 13 bar	8153 0341 97	8153 0342 13	8153 0342 39	8153 6163 08	8153 6163 32	8153 6163 65	8153 6163 99
Drawing number	9828 4969 26	9828 4969 26	9828 4969 26	9828 0831 80	9828 0831 80	9828 0831 80	9828 0831 80



GA VSD+ MED (Rotary Screw) Oil-injected Compressor Selection Table – Variable Speed 50Hz

Model Name	GA7 VSD+ MED	GA11 VSD+ MED	GA15 VSD+ MED	GA18 VSD+ MED	GA22 VSD+ MED	GA26 VSD+ MED	GA30 VSD+ MED	GA37 VSD+ MED
Output flow (l/min) 7 bar variant *	1302	1950	2508	3750	4506	5148	5844	6900
Output flow (l/min) 10 bar variant *	1080	1632	2130	3216	3912	4704	5136	6138
Output flow (l/min) 13 bar variant *	852	1410	1674	2610	3246	3870	4320	5202
Footprint L x W x H (mm)	720 x 630 x 1420	720 x 630 x 1420	720 x 630 x 1420	990 x 790 x 1590	990 x 790 x 1590	990 x 790 x 1590	990 x 790 x 1590	990 x 790 x 1590
Compressor weight (kg)	208	211	214	387	387	393	396	396
Service connection (mm)	22	22	22	22	22	22	22	22
Noise level (dB[A])	62	63	64	67	67	67	67	67
Maximum ambient temperature (°C)	46	46	46	46	46	46	46	46
Supply voltage (v)	380-460	380-460	380-460	380-460	380-460	380-460	380-460	380-460
Supply frequency (Hz)	50	50	50	50	50	50	50	50
Nominal motor rating (kW) (1900 rpm - 5250 rpm full load)	2.9 – 7.9	2.9 – 12.1	3 – 17.1	5 – 20.1	5.1 - 24	5. - 29	5. – 34.3	5.4 - 41.2
Full load current per compressor (A)	18.4	24.4	31.4	44.0	59.0	59.4	72.5	88.7
Cooling air flow per compressor (m³/s)	0.8	0.8	0.8	1.3	1.3	1.6	1.6	1.6
Part number	8102 3414 20	8102 3414 23	8102 3414 26	8102 3414 29	8102 3414 32	8102 3414 35	8102 3414 38	8102 3414 41

*Variable speed drive compressors operate from 4-13 bar – start current not applicable for VSD



HTM 02-01 4 Bar 50Hz Medical Air Plant Specifications – GA MED

Model Name	MEDAIR – GT 4233600100	MEDAIR – GT 4233600101	MEDAIR – GT 4233600102	MEDAIR – GT 4233600103	MEDAIR – GT 4233600104
Model Description	MEDAIR-GT4-671 HTM02-01 50Hz	MEDAIR-GT4-1000 HTM02-01 50Hz	MEDAIR-GT4-1460 HTM02-01 50Hz	MEDAIR-GT4-2175 HTM02-01 50Hz	MEDAIR-GT4-3105 HTM02-01 50Hz
Free Air Delivered (l/min) ⁽¹⁾	671	1000	1460	2175	3105
Nominal Motor Power per Compressor (kW)	5	7	11	15	22
Compressor Model	GA5 MED 7.5 Bar	GA7 MED 7.5 Bar	GA11 MED 7.5 Bar	GA15 MED 7.5 Bar	GA22 MED 7.5 Bar
Electrical Supply	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz
Starting Method	SD	SD	SD	SD	SD
Full Load Current per Compressor (A) ⁽²⁾	17	22	32	33.3	47.4
Approx. Starting Current (A)	98.6	131	188	110	180
Motor Rated Supply per Compressor (A)	32	32	40	50	80
Compressor Configuration	Triplex	Triplex	Triplex	Triplex	Triplex
Duty Compressors	1	1	1	1	1
Standby Compressors	2	2	2	2	2
Sound Pressure Level/ Compressor dB(A) ⁽⁴⁾	60	61	62	65	68
Cooling air flow per compressor (m ³ /s)	0.8	0.8	1	0.5	1.1
Compressor Oil Capacity (litres)	3.6	3.7	5.1	12.2	12.2
Air Receiver(s)	2	2	2	2	2
Receiver Volume (litres)	250 11 Bar	250 11 Bar	500 11 Bar	1000 11 Bar	1000 11 Bar
Air Receiver Total Capacity (litres)	500	500	1000	2000	2000
Dryer Model	PureMED21 7.5-4 Bar	PureMED21 7.5-4 Bar	PureMED35 7.5-4 Bar	PureMED52 7.5-4 Bar	PureMED71 7.5-4 Bar

1. Data measured and stated in accordance with ISO1217 Ed.4, Annex C & Annex E and Pneurop/Cagi PN2CPTC2 with one compressor on standby and with an air intake at 1013 mbar, 20°C and 0% RH. Tropical thermostats may reduce the free air delivery marginally.
2. These are typical figures and may vary with the specific motor used. Consult the motor nameplate for exact figures.
3. Two standby compressors should be provided unless the automatic backup manifold is of sufficient capacity to deliver the system design flow.
4. Measured in free field conditions in accordance with the Pneurop/Cagi PN8TNC2.2 test code. Subject to a tolerance of +/- 3 dB
5. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
6. Design flow in terms of free air delivered after losses at working pressure with reserve compressor(s) on standby. Tolerance ±5%.

HTM 02-01 4 Bar 50Hz Medical Air Plant Specifications – GA MED (continued)

Model Name	MEDAIR – GQ 4233600105	MEDAIR – GQ 4233600106	MEDAIR – GQ 4233600107	MEDAIR – GQ 4233600108
Model Description	MEDAIR-GQ4-4351 HTM02-01 50Hz	MEDAIR-GQ4-5109 HTM02-01 50Hz	MEDAIR-GQ4-6211 HTM02-01 50Hz	MEDAIR-GQ4-6966 HTM02-01 50Hz
Free Air Delivered (l/min) ⁽¹⁾	4351	5109	6211	6966
Nominal Motor Power per Compressor (kW)	15	18	22	26
Compressor Model	GA15 MED 7.5 Bar	GA18 MED 7.5 Bar	GA22 MED 7.5 Bar	GA26 MED 7.5 Bar
Electrical Supply	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz
Starting Method	SD	SD	SD	SD
Full Load Current per Compressor (A) ⁽²⁾	33.3	40.7	47.4	57
Approx. Starting Current (A)	110	302	180	211
Motor Rated Supply per Compressor (A)	50	63	80	80
Compressor Configuration	Quadruplex	Quadruplex	Quadruplex	Quadruplex
Duty Compressors	2	2	2	2
Standby Compressors	2	2	2	2
Sound Pressure Level/ Compressor dB(A) ⁽⁴⁾	65	67	68	69
Cooling air flow per compressor (m ³ /s)	0.5	0.7	1.1	1.1
Compressor Oil Capacity (litres)	12.2	12.2	12.2	12.2
Air Receiver(s)	2	2	2	2
Receiver Volume (litres)	1500 11 Bar	1500 11 Bar	2000 11 Bar	2000 11 Bar
Air Receiver Total Capacity (litres)	3000	3000	4000	4000
Dryer Model	PureMED104 7.5-4 Bar	PureMED104 7.5-4 Bar	PureMED142 7.5-4 Bar	PureMED142 7.5-4 Bar

1. Data measured and stated in accordance with ISO1217 Ed.4, Annex C & Annex E and Pneurop/Cagi PN2CPTC2 with one compressor on standby and with an air intake at 1013 mbar, 20°C and 0% RH. Tropical thermostats may reduce the free air delivery marginally.
2. These are typical figures and may vary with the specific motor used. Consult the motor nameplate for exact figures.
3. Two standby compressors should be provided unless the automatic backup manifold is of sufficient capacity to deliver the system design flow.
4. Measured in free field conditions in accordance with the Pneurop/Cagi PN8TNC2.2 test code. Subject to a tolerance of +/- 3 dB
5. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
6. Design flow in terms of free air delivered after losses at working pressure with reserve compressor(s) on standby. Tolerance ±5%.

HTM 02-01 7 Bar 50Hz Combined Medical and Surgical Air Plant Specifications – GA MED

Model Name	MEDAIR – GT 4233600109	MEDAIR – GT 4233600110	MEDAIR – GT 4233600111	MEDAIR – GQ 4233600112	MEDAIR – GQ 4233600113	MEDAIR – GP 4233600114
Model Description	MEDAIR- GT7-1527 HTM02-01 50Hz	MEDAIR- GT7-2272 HTM02-01 50Hz	MEDAIR- GT7-3234 HTM02-01 50Hz	MEDAIR- GQ7-4544 HTM02-01 50Hz	MEDAIR- GQ7-6000 HTM02-01 50Hz	MEDAIR- GP7-10109 HTM02-01 50Hz
Free Air Delivered (l/min) ⁽¹⁾	1331	1886	2685	3771	5371	8209
Nominal Motor Power per Compressor (kW)	11	15	22	15	22	22
Compressor Model	GA11 MED 10 Bar	GA15 MED 10 Bar	GA22 MED 10 Bar	GA15 MED 10 Bar	GA22 MED 10 Bar	GA22 MED 10 Bar
Electrical Supply	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz
Starting Method	SD	SD	SD	SD	SD	SD
Full Load Current per Compressor (A) ⁽²⁾	32	33.3	47.4	33.3	47.4	47.4
Approx. Starting Current (A)	188	110	180	110	180	180
Motor Rated Supply per Compressor (A)	40	50	80	50	80	80
Compressor Configuration	Triplex	Triplex	Triplex	Quadruplex	Quadruplex	Pentaplex
Duty Compressors	1	1	1	2	2	3
Standby Compressors	2	2	2	2	2	2
Sound Pressure Level/ Compressor dB(A) ⁽⁴⁾	62	65	68	65	68	68
Cooling air flow per compressor (m³/s)	1	0.5	1.1	0.5	1.1	1.1
Compressor Oil Capacity (litres)	5.1	12.2	12.2	12.2	12.2	12.2
Air Receiver(s)	2	2	2	3	3	3
Receiver Volume (litres)	1000 11 Bar	1500 11 Bar	1500 11 Bar	1500 11 Bar	1500 11 Bar	3000 11 Bar
Air Receiver Total Capacity (litres)	2000	3000	3000	4500	4500	9000
Dryer Model	PureMED21 10-7 Bar	PureMED35 10-7 Bar	PureMED52 10-7 Bar	PureMED71 10-7 Bar	PureMED104 10-7 Bar	PureMED142 10-7 Bar

1. Data measured and stated in accordance with ISO1217 Ed.4, Annex C & Annex E and Pneurop/Cagi PN2CPTC2 with one compressor on standby and with an air intake at 1013 mbar, 20°C and 0% RH. Tropical thermostats may reduce the free air delivery marginally. For 700kPa and 1000kPa, combined air plant capacity is rated with a 50/50 split of surgical and medical air (within the design parameters stated in HTM 02-01).
2. These are typical figures and may vary with the specific motor used. Consult the motor nameplate for exact figures.
3. Two standby compressors should be provided unless the automatic backup manifold is of sufficient capacity to deliver the system design flow.
4. Measured in free field conditions in accordance with the Pneurop/Cagi PN8TNC2.2 test code. Subject to a tolerance of +/- 3 dB
5. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
6. Design flow in terms of free air delivered after losses at working pressure with reserve compressor(s) on standby. Tolerance ±5%.

HTM 02-01 10 Bar 50Hz Combined Medical and Surgical Air Plant Specifications – GA MED

Model Name	MEDAIR-GT 4233600115	MEDAIR-GT 4233600116	MEDAIR-GT 4233600117	MEDAIR-GQ 4233600118
Model Description	MEDAIR- GT10-1314 HTM02-01 50 Hz	MEDAIR- GT10-2008 HTM02-01 50 Hz	MEDAIR- GT10-2974 HTM02-01 50 Hz	MEDAIR- GQ10-3994 HTM02-01 50 Hz
Free Air Delivered (l/min) ⁽¹⁾	1091	1709	2468	3994
Nominal Motor Power per Compressor (kW)	11	15	22	15
Compressor Model	GA11 MED 13 Bar	GA15 MED 13 Bar	GA22 MED 13 Bar	GA15 MED 13 Bar
Electrical Supply	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz
Starting Method	SD	SD	SD	SD
Full Load Current per Compressor (A) ⁽²⁾	32	33.3	47.4	33.3
Approx. Starting Current (A)	188	110	180	110
Motor Rated Supply per Compressor (A)	40	50	80	50
Compressor Configuration	Triplex	Triplex	Triplex	Quadruplex
Duty Compressors	1	1	1	2
Standby Compressors	2	2	2	2
Sound Pressure Level/ Compressor dB(A) ⁽⁴⁾	62	65	68	65
Cooling air flow per compressor (m³/s)	1	0.5	1.1	0.5
Compressor Oil Capacity (litres)	5.1	12.2	12.2	12.2
Air Receiver(s)	2	2	2	2
Receiver Volume (litres)	1000 14 Bar	1000 14 Bar	1500 14 Bar	2000 14 Bar
Air Receiver Total Capacity (litres)	2000	2000	3000	4000
Dryer Model	PureMED21 13-10 Bar	PureMED21 13-10 Bar	PureMED35 13-10 Bar	PureMED52 13-10 Bar

1. Data measured and stated in accordance with ISO1217 Ed.4, Annex C & Annex E and Pneurop/Cagi PN2CPTC2 with one compressor on standby and with an air intake at 1013 mbar, 20°C and 0% RH. Tropical thermostats may reduce the free air delivery marginally.
2. These are typical figures and may vary with the specific motor used. Consult the motor nameplate for exact figures.
3. Two standby compressors should be provided unless the automatic backup manifold is of sufficient capacity to deliver the system design flow.
4. Measured in free field conditions in accordance with the Pneurop/Cagi PN8TNC2.2 test code. Subject to a tolerance of +/- 3 dB
5. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
6. Design flow in terms of free air delivered after losses at working pressure with reserve compressor(s) on standby. Tolerance ±5%.

HTM 02-01 10 Bar 50Hz Combined Medical and Surgical Air Plant Specifications – GA MED (continued)

Model Name	MEDAIR-GQ 4233600119	MEDAIR-GQ 4233600120	MEDAIR-GP 4233600121	MEDAIR-GH 4233600122
Model Description	MEDAIR- GQ10-4904 HTM02-01 50 Hz	MEDAIR- GQ10-5946 HTM02-01 50 Hz	MEDAIR- GP10-9781 HTM02-01 50 Hz	MEDAIR- GH10-12000 HTM02-01 50 Hz
Free Air Delivered (l/min) ⁽¹⁾	4167	4935	7429	9871
Nominal Motor Power per Compressor (kW)	18	22	22	22
Compressor Model	GA18 MED 13 Bar	GA22 MED 13 Bar	GA22 MED 13 Bar	GA22 MED 13 Bar
Electrical Supply	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz
Starting Method	SD	SD	SD	SD
Full Load Current per Compressor (A) ⁽²⁾	40.7	47.4	47.4	47.4
Approx. Starting Current (A)	138	180	180	180
Motor Rated Supply per Compressor (A)	63	80	80	80
Compressor Configuration	Quadruplex	Quadruplex	Pentaplex	Hexaplex
Duty Compressors	2	2	3	4
Standby Compressors	2	2	2	2
Sound Pressure Level/ Compressor dB(A) ⁽⁴⁾	67	68	68	68
Cooling air flow per compressor (m³/s)	0.7	1.1	1.1	1.1
Compressor Oil Capacity (litres)	12.2	12.2	12.2	12.2
Air Receiver(s)	3	3	3	3
Receiver Volume (litres)	1500 14 Bar	2000 14 Bar	3000 14 Bar	3000 14 Bar
Air Receiver Total Capacity (litres)	4500	6000	9000	9000
Dryer Model.	PureMED52 13-10 Bar	PureMED71 13-10 Bar	PureMED104 13-10 Bar	PureMED142 13-10 Bar

1. Data measured and stated in accordance with ISO1217 Ed.4, Annex C & Annex E and Pneurop/Cagi PN2CPTC2 with one compressor on standby and with an air intake at 1013 mbar, 20°C and 0% RH. Tropical thermostats may reduce the free air delivery marginally.
2. These are typical figures and may vary with the specific motor used. Consult the motor nameplate for exact figures.
3. Two standby compressors should be provided unless the automatic backup manifold is of sufficient capacity to deliver the system design flow.
4. Measured in free field conditions in accordance with the Pneurop/Cagi PN8TNC2.2 test code. Subject to a tolerance of +/- 3 dB
5. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
6. Design flow in terms of free air delivered after losses at working pressure with reserve compressor(s) on standby. Tolerance ±5%.

HTM 02-01 4 Bar 50Hz Medical Air Plant Specifications – GA VSD+ MED

Model Name	MEDAIR-GTV 4233600123	MEDAIR-GTV 4233600124	MEDAIR-GTV 4233600125	MEDAIR-GTV 4233600126	MEDAIR-GTV 4233600127	MEDAIR-GTV 4233600128	MEDAIR-GQV 4233600129
Model Description	MEDAIR- GTV4-1000 HTM02-01 50Hz	MEDAIR- GTV4-1568 HTM02-01 50Hz	MEDAIR- GTV4-2554 HTM02-01 50Hz	MEDAIR- GTV4-3483 HTM02-01 50Hz	MEDAIR- GTV4-4000 HTM02-01 50Hz	MEDAIR- GTV4-5109 HTM02-01 50Hz	MEDAIR- GQV4-6966 HTM02-01 50Hz
Free Air Delivered (l/min) ⁽¹⁾	1000	1568	2554	3483	4000	5109	6966
Nominal Motor Power per Compressor (kW)	2.9-7.9	2.9-2.1	5-20.1	5.1-24	mei/29	5.4-41.2	5.1-24
Compressor Model	GA7 MED VSD+ 7.5 Bar	GA11 MED VSD+ 7.5 Bar	GA18 MED VSD+ 7.5 Bar	GA22 MED VSD+ 7.5 Bar	GA26 MED VSD+ 7.5 Bar	GA37 MED VSD+ 7.5 Bar	GA22 MED VSD+ 7.5 Bar
Electrical Supply	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz
Starting Method	DOL	DOL	DOL	DOL	DOL	DOL	DOL
Full Load Current per Compressor (A) ⁽²⁾	18.4	24.4	44.0	59.0	59.4	88.7	59.0
Approx. Starting Current (A)	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Motor Rated Supply per Compressor (A)	25	25	50	63	63	100	63
Compressor Configuration	Triplex	Triplex	Triplex	Triplex	Triplex	Triplex	Quadruplex
Duty Compressors	1	1	1	1	1	1	2
Standby Compressors	2	2	2	2	2	2	2
Sound Pressure Level/ Compressor dB(A) ⁽⁴⁾	62	63	67	67	67	67	67
Cooling air flow per compressor (m³/s)	0.8	0.8	1.3	1.3	1.6	1.76	1.3
Compressor Oil Capacity (litres)	6.5	7.1	14.1	14.7	15.5	16	14.7
Air Receiver(s)	2	2	2	2	2	2	2
Receiver Volume (litres)	250 11 Bar	500 11 Bar	1000 11 Bar	1000 11 Bar	1000 11 Bar	1500 11 Bar	2000 11 Bar
Air Receiver Total Capacity (litres)	500	1000	2000	2000	2000	3000	4000
Dryer Model	PureMED21 7.5-4 Bar	PureMED35 7.5-4 Bar	PureMED52 7.5-4 Bar	PureMED71 7.5-4 Bar	PureMED104 7.5-4 Bar	PureMED104 7.5-4 Bar	PureMED142 7.5-4 Bar

1. Data measured and stated in accordance with ISO1217 Ed.4, Annex C & Annex E and Pneurop/Cagi PN2CPTC2 with one compressor on standby and with an air intake at 1013 mbar, 20°C and 0% RH. Tropical thermostats may reduce the free air delivery marginally.
2. These are typical figures and may vary with the specific motor used. Consult the motor nameplate for exact figures.
3. Two standby compressors should be provided unless the automatic backup manifold is of sufficient capacity to deliver the system design flow.
4. Measured in free field conditions in accordance with the Pneurop/Cagi PN8TNC2.2 test code. Subject to a tolerance of +/- 3 dB
5. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
6. Design flow in terms of free air delivered after losses at working pressure with reserve compressor(s) on standby. Tolerance ±5%.

HTM 02-01 7 Bar 50Hz Combined Medical and Surgical Air Plant Specifications – GA VSD+ MED

Model Name	MEDAIR-GTV 4233600131	MEDAIR-GTV 4233600132	MEDAIR-GTV 4233600133	MEDAIR-GTV 4233600134
Model Description	MEDAIR- GTV7-1026 HTM02-01 50Hz	MEDAIR- GTV7-1527 HTM02-01 50Hz	MEDAIR- GTV7-2106 HTM02-01 50Hz	MEDAIR- GTV7-3198 HTM02-01 50Hz
Free Air Delivered (l/min) ⁽¹⁾	851	1403	1748	2655
Nominal Motor Power per Compressor (kW)	2.9 - 7.9	2.9 – 12.1	2.9 – 7.9	3 – 17.1
Compressor Model	GA7 MED VSD+ 10 Bar	GA11 MED VSD+ 10 Bar	GA15 MED VSD+ 10 Bar	GA18 MED VSD+ 10 Bar
Electrical Supply	400 V 3~ 50Hz	400 V 3~ 50Hz	400 V 3~ 50Hz	400 V 3~ 50Hz
Starting Method	DOL	DOL	DOL	DOL
Full Load Current per Compressor (A) ⁽²⁾	18.4	24.4	31.4	44.0
Approx. Starting Current (A)	n/a	n/a	n/a	n/a
Motor Rated Supply per Compressor (A)	25	25	50	50
Compressor Configuration	Triplex	Triplex	Triplex	Triplex
Duty Compressors	1	1	1	1
Standby Compressors	2	2	2	2
Sound Pressure Level/ Compressor dB(A) ⁽⁴⁾	62	63	64	67
Cooling air flow per compressor (m³/s)	0.8	0.8	0.8	1.3
Compressor Oil Capacity (litres)	6.5	7.1	7.8	14.1
Air Receiver(s)	2	2	2	2
Receiver Volume (litres)	1000 11 Bar	1000 11 Bar	1000 11 Bar	1500 11 Bar
Air Receiver Total Capacity (litres)	2000	2000	2000	3000
Dryer Model	PureMED21 10-7 Bar	PureMED21 10-7 Bar	PureMED35 10-7 Bar	PureMED52 10-7 Bar

1. Data measured and stated in accordance with ISO1217 Ed.4, Annex C & Annex E and Pneurop/Cagi PN2CPTC2 with one compressor on standby and with an air intake at 1013 mbar, 20°C and 0% RH. Tropical thermostats may reduce the free air delivery marginally.
2. For 700kPa and 1000kPa, combined air plant capacity is rated with a 50/50 split of surgical and medical air (within the design parameters stated in HTM 02-01).
3. These are typical figures and may vary with the specific motor used. Consult the motor nameplate for exact figures.
4. Two standby compressors should be provided unless the automatic backup manifold is of sufficient capacity to deliver the system design flow.
5. Measured in free field conditions in accordance with the Pneurop/Cagi PN8TNC2.2 test code. Subject to a tolerance of +/- 3 dB
6. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
7. Design flow in terms of free air delivered after losses at working pressure with reserve compressor(s) on standby. Tolerance ±5%.

HTM 02-01 7 Bar 50Hz Combined Medical and Surgical Air Plant Specifications – GA VSD+ MED (continued)

Model Name	MEDAIR-GTV 4233600135	MEDAIR- GTV4233600136	MEDAIR-GQV 4233600137	MEDAIR-GPV 4233600138
Model Description	MEDAIR- GTV7-3715 HTM02-01 50Hz	MEDAIR- GTV7-4746 HTM02-01 50Hz	MEDAIR- GQV7-7402 HTM02-01 50Hz	MEDAIR- GPV7-10109 HTM02-01 50Hz
Free Air Delivered (l/min) ⁽¹⁾	3351	3939	6703	8119
Nominal Motor Power per Compressor (kW)	5.1 – 24	5.5 – 29	5.1 – 24	5 – 20.1
Compressor Model	GA22 MED VSD+ 10 Bar	GA26 MED VSD+ 10 Bar	GA22 MED VSD+ 10 Bar	GA18 MED VSD+ 10 Bar
Electrical Supply	400 V 3~ 50Hz	400 V 3~ 50Hz	400 V 3~ 50Hz	400 V 3~ 50Hz
Starting Method	DOL	DOL	DOL	DOL
Full Load Current per Compressor (A) ⁽²⁾	59.0	59.4	59.0	44.0
Approx. Starting Current (A)	n/a	n/a	n/a	n/a
Motor Rated Supply per Compressor (A)	63	63	63	50
Compressor Configuration	Triplex	Triplex	Quadruplex	Pentaplex
Duty Compressors	1	1	2	3
Standby Compressors	2	2	2	2
Sound Pressure Level/ Compressor dB(A) ⁽⁴⁾	67	67	67	67
Cooling air flow per compressor (m³/s)	1.3	1.6	1.3	1.3
Compressor Oil Capacity (litres)	14.7	15.5	14.7	14.1
Air Receiver(s)	2	3	3	3
Receiver Volume (litres)	2000 11 Bar	1500 11 Bar	2000 11 Bar	3000 11 Bar
Air Receiver Total Capacity (litres)	4000	4500	6000	9000
Dryer Model	PureMED52 10-7 Bar	PureMED71 10-7 Bar	PureMED104 10-7 Bar	PureMED142 10-7 Bar

1. Data measured and stated in accordance with ISO1217 Ed.4, Annex C & Annex E and Pneurop/Cagi PN2CPTC2 with one compressor on standby and with an air intake at 1013 mbar, 20°C and 0% RH. Tropical thermostats may reduce the free air delivery marginally.
2. For 700kPa and 1000kPa, combined air plant capacity is rated with a 50/50 split of surgical and medical air (within the design parameters stated in HTM 02-01).
3. These are typical figures and may vary with the specific motor used. Consult the motor nameplate for exact figures.
4. Two standby compressors should be provided unless the automatic backup manifold is of sufficient capacity to deliver the system design flow.
5. Measured in free field conditions in accordance with the Pneurop/Cagi PN8TNC2.2 test code. Subject to a tolerance of +/- 3 dB
6. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
7. Design flow in terms of free air delivered after losses at working pressure with reserve compressor(s) on standby. Tolerance ±5%.

HTM 02-01 10 Bar 50Hz Combined Medical and Surgical Air Plant Specifications – GA VSD+ MED

Model Name	MEDAIR-GTV 4233600139	MEDAIR-GTV 4233600140	MEDAIR-GTV 4233600141	MEDAIR-GTV 4233600142
Model Description	MEDAIR- GTV10-1740 HTM02-01 50Hz	MEDAIR- GTV10-2684 HTM02-01 50Hz	MEDAIR- GTV10-3328 HTM02-01 50Hz	MEDAIR- GTV10-3986 HTM02-01 50Hz
Free Air Delivered (l/min) ⁽¹⁾	1445	2228	2864	3309
Nominal Motor Power per Compressor (kW)	3 – 17.1	5 – 20.1	5.1 – 24	5.5 – 29
Compressor Model	GA15 MED VSD+ 13 Bar	GA18 MED VSD+ 13 Bar	GA22 MED VSD+ 13 Bar	GA26 MED VSD+ 13 Bar
Electrical Supply	400 V 3~ 50Hz	400 V 3~ 50Hz	400 V 3~ 50Hz	400 V 3~ 50Hz
Starting Method	DOL	DOL	DOL	DOL
Full Load Current per Compressor (A) ⁽²⁾	31.4	44.0	59.0	59.4
Approx. Starting Current (A)	n/a	n/a	n/a	n/a
Motor Rated Supply per Compressor (A)	50	50	63	63
Compressor Configuration	Triplex	Triplex	Triplex	Triplex
Duty Compressors	1	1	1	1
Standby Compressors	2	2	2	2
Sound Pressure Level/ Compressor dB(A) ⁽⁴⁾	64	67	67	67
Cooling air flow per compressor (m³/s)	0.8	1.3	1.3	1.6
Compressor Oil Capacity (litres)	7.8	14.1	14.7	15.5
Air Receiver(s)	2	2	2	2
Receiver Volume (litres)	1000 14 Bar	1500 14 Bar	2000 14 Bar	2000 14 Bar
Air Receiver Total Capacity (litres)	2000	3000	4000	4000
Dryer Model	PureMED21 13-10 Bar	PureMED35 13-10 Bar	PureMED35 13-10 Bar	PureMED52 13-10 Bar

1. Data measured and stated in accordance with ISO1217 Ed.4, Annex C & Annex E and Pneurop/Cagi PN2CPTC2 with one compressor on standby and with an air intake at 1013 mbar, 20°C and 0% RH. Tropical thermostats may reduce the free air delivery marginally.
2. For 700kPa and 1000kPa, combined air plant capacity is rated with a 50/50 split of surgical and medical air (within the design parameters stated in HTM 02-01).
3. These are typical figures and may vary with the specific motor used. Consult the motor nameplate for exact figures.
4. Two standby compressors should be provided unless the automatic backup manifold is of sufficient capacity to deliver the system design flow.
5. Measured in free field conditions in accordance with the Pneurop/Cagi PN8TNC2.2 test code. Subject to a tolerance of +/- 3 dB
6. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
7. Design flow in terms of free air delivered after losses at working pressure with reserve compressor(s) on standby. Tolerance ±5%.

HTM 02-01 10 Bar 50Hz Combined Medical and Surgical Air Plant Specifications – GA VSD+ MED (continued)

Model Name	MEDAIR-GQV 4233600143	MEDAIR-GQV 4233600144	MEDAIR-GPV 4233600145	MEDAIR-GPV 4233600146
Model Description	MEDAIR- GQV10-4904 HTM02-01 50Hz	MEDAIR- GQV10-6000 HTM02-01 50Hz	MEDAIR- GPV10-8946 HTM02-01 50Hz	MEDAIR- GTP10-12000 HTM02-01 50Hz
Free Air Delivered (l/min) ⁽¹⁾	4659	5727	6709	10081
Nominal Motor Power per Compressor (kW)	5 – 20.1	5.1 – 24	5 – 20.1	5.5 - 29
Compressor Model	GA18 MED VSD+ 13 Bar	GA22 MED VSD+ 13 Bar	GA18 MED VSD+ 13 Bar	GA26 MED VSD+ 13 Bar
Electrical Supply	400 V 3~ 50Hz	400 V 3~ 50Hz	400 V 3~ 50Hz	400 V 3~ 50Hz
Starting Method	DOL	DOL	DOL	DOL
Full Load Current per Compressor (A) ⁽²⁾	44.0	59.0	44.0	59.4
Approx. Starting Current (A)	n/a	n/a	n/a	n/a
Motor Rated Supply per Compressor (A)	50	63	50	63
Compressor Configuration	Quadruplex	Quadruplex	Pentaplex	Pentaplex
Duty Compressors	2	2	3	3
Standby Compressors	2	2	2	2
Sound Pressure Level/ Compressor dB(A) ⁽⁴⁾	67	67	67	67
Cooling air flow per compressor (m³/s)	1.3	1.3	1.3	1.6
Compressor Oil Capacity (litres)	14.1	14.7	14.1	15.5
Air Receiver(s)	3	3	3	3
Receiver Volume (litres)	1500 14 Bar	1500 14 Bar	3000 14 Bar	3000 14 Bar
Air Receiver Total Capacity (litres)	4500	4500	9000	9000
Dryer Model	PureMED52 13-10 Bar	PureMED71 13-10 Bar	PureMED104 13-10 Bar	PureMED142 13-10 Bar

1. Data measured and stated in accordance with ISO1217 Ed.4, Annex C & Annex E and Pneurop/Cagi PN2CPTC2 with one compressor on standby and with an air intake at 1013 mbar, 20°C and 0% RH. Tropical thermostats may reduce the free air delivery marginally.
2. For 700kPa and 1000kPa, combined air plant capacity is rated with a 50/50 split of surgical and medical air (within the design parameters stated in HTM 02-01).
3. These are typical figures and may vary with the specific motor used. Consult the motor nameplate for exact figures.
4. Two standby compressors should be provided unless the automatic backup manifold is of sufficient capacity to deliver the system design flow.
5. Measured in free field conditions in accordance with the Pneurop/Cagi PN8TNC2.2 test code. Subject to a tolerance of +/- 3 dB
6. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
7. Design flow in terms of free air delivered after losses at working pressure with reserve compressor(s) on standby. Tolerance ±5%.

HTM 2022 4 Bar 50Hz Medical Air Plant Specifications – GA MED

Model Name	MEDAIR – GD 4233600292	MEDAIR – GD 4233600293	MEDAIR – GD 4233600294	MEDAIR – GD 4233600295	MEDAIR – GD 4233600296
Model Description	MEDAIR-GD4-671 HTM2022 50Hz	MEDAIR- GD4-1000 HTM2022 50Hz	MEDAIR- GD4-1460 HTM2022 50Hz	MEDAIR- GD4-2175 HTM2022 50Hz	MEDAIR- GD4-3483 HTM2022 50Hz
Free Air Delivered (l/min) ⁽¹⁾	671	1000	1460	2175	3483
Nominal Motor Power per Compressor (kW)	5	7	11	15	26
Compressor Model	GA5 MED 7.5 Bar	GA7 MED 7.5 Bar	GA11 MED 7.5 Bar	GA15 MED 7.5 Bar	GA26 MED 7.5 Bar
Electrical Supply	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz
Starting Method	SD	SD	SD	SD	SD
Full Load Current per Compressor (A) ⁽²⁾	17	22	32	33.3	57
Approx. Starting Current (A)	42	61	88	110	211
Motor Rated Supply per Compressor (A)	32	32	40	50	80
Compressor Configuration	Duplex	Duplex	Duplex	Duplex	Duplex
Duty Compressors	1	1	1	1	1
Standby Compressors	1	1	1	1	1
Sound Pressure Level/ Compressor dB(A) ⁽⁴⁾	60	61	62	65	69
Cooling air flow per compressor (m³/s)	0.8	0.8	1	0.5	1.1
Compressor Oil Capacity (litres)	3.6	3.7	5.1	12.2	12.2
Air Receiver(s)	1	1	1	1	1
Receiver Volume (litres)	500 11 Bar	500 11 Bar	1000 11 Bar	1500 11 Bar	2000 11 Bar
Air Receiver Total Capacity (litres)	500	500	1000	1500	2000
Dryer Model	PureMED21 7.5-4 Bar	PureMED21 7.5-4 Bar	PureMED35 7.5-4 Bar	PureMED52 7.5-4 Bar	PureMED71 7.5-4 Bar

1. Data measured and stated in accordance with ISO1217 Ed.4, Annex C & Annex E and Pneurop/Cagi PN2CPTC2 with one compressor on standby and with an air intake at 1013 mbar, 20°C and 0% RH. Tropical thermostats may reduce the free air delivery marginally.
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 in accordance with the Pneurop/Cagi PN8TNC2.2 test code. Subject to a tolerance of +/- 3 dB
4. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
5. Design flow in terms of free air delivered after losses at working pressure with reserve compressor(s) on standby. Tolerance ±5%.

HTM 2022 4 Bar 50Hz Medical Air Plant Specifications – GA MED (continued)

Model Name	MEDAIR – GT 4233600297	MEDAIR – GT 4233600298	MEDAIR – GT 4233600299	MEDAIR – GT 4233600300
Model Description	MEDAIR- GT4-4351 HTM2022 50Hz	MEDAIR- GT4-5109 HTM2022 50Hz	MEDAIR- GT4-6211 HTM2022 50Hz	MEDAIR- GT4-6933 HTM2022 50Hz
Free Air Delivered (l/min) ⁽¹⁾	4351	5109	6211	6933
Nominal Motor Power per Compressor (kW)	15	18	22	26
Compressor Model	GA15 MED 7.5 Bar	GA18 MED 7.5 Bar	GA22 MED 7.5 Bar	GA26 MED 7.5 Bar
Electrical Supply	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz
Starting Method	SD	SD	SD	SD
Full Load Current per Compressor (A) ⁽²⁾	33.3	40.7	47.4	57
Approx. Starting Current (A)	110	138	180	211
Motor Rated Supply per Compressor (A)	50	63	80	80
Compressor Configuration	Triplex	Triplex	Triplex	Triplex
Duty Compressors	2	2	2	2
Standby Compressors	1	1	1	1
Sound Pressure Level/ Compressor dB(A) ⁽⁴⁾	65	67	68	69
Cooling air flow per compressor (m³/s)	0.5	0.7	1.1	1.1
Compressor Oil Capacity (litres)	12.2	12.2	12.2	12.2
Air Receiver(s)	1	1	2	2
Receiver Volume (litres)	3000 11 Bar	3000 11 Bar	2000 11 Bar	2000 11 Bar
Air Receiver Total Capacity (litres)	3000	3000	4000	4000
Dryer Model	PureMED104 7.5-4 Bar	PureMED104 7.5-4 Bar	PureMED142 7.5-4 Bar	PureMED142 7.5-4 Bar

1. Data measured and stated in accordance with ISO1217 Ed.4, Annex C & Annex E and Pneurop/Cagi PN2CPTC2 with one compressor on standby and with an air intake at 1013 mbar, 20°C and 0% RH. Tropical thermostats may reduce the free air delivery marginally.
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 in accordance with the Pneurop/Cagi PN8TNC2.2 test code. Subject to a tolerance of +/- 3 dB
4. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
5. Design flow in terms of free air delivered after losses at working pressure with reserve compressor(s) on standby. Tolerance ±5%.

HTM 2022 7 Bar 50Hz Combined Air Plant Specifications – GA MED

Model Name	MEDAIR – GD 4233600301	MEDAIR – GD 4233600302	MEDAIR – GD 4233600303	MEDAIR – GD 4233600304	MEDAIR – GT 4233600305	MEDAIR – GT 4233600306	MEDAIR – GQ 4233600307
Model Description	MEDAIR- GD7-1331 HTM2022 50Hz	MEDAIR- GD7-2432 HTM2022 50Hz	MEDAIR- GD7-2685 HTM2022 50Hz	MEDAIR- GD7-3000 HTM2022 50Hz	MEDAIR- GT7-4863 HTM2022 50Hz	MEDAIR- GT7-6799 HTM2022 50Hz	MEDAIR- GQ7-10109 HTM2022 50Hz
Free Air Delivered (l/min) ⁽¹⁾	1331	2432	2685	3000	4863	6799	10109
Nominal Motor Power per Compressor (kW)	11	18	22	26	18	26	26
Compressor Model	GA11 MED 10 Bar	GA18 MED 10 Bar	GA22 MED 10 Bar	GA26 MED 10 Bar	GA18 MED 10 Bar	GA26 MED 10 Bar	GA26 MED 10 Bar
Electrical Supply	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz
Starting Method	SD	SD	SD	SD	SD	SD	SD
Full Load Current per Compressor (A) ⁽²⁾	17	40.7	47.4	57	40.7	57	57
Approx. Starting Current (A)	98.6	138	180	211	138	211	211
Motor Rated Supply per Compressor (A)	32	63	80	80	63	80	80
Compressor Configuration	Duplex	Duplex	Duplex	Duplex	Triplex	Triplex	Quadruplex
Duty Compressors	1	1	1	1	2	2	3
Standby Compressors	1	1	1	1	1	1	1
Sound Pressure Level/ Compressor dB(A) ⁽⁴⁾	60	67	68	69	67	69	69
Cooling air flow per compressor (m³/s)	0.8	0.7	1.1	1.1	0.7	1.1	1.1
Compressor Oil Capacity (litres)	3.6	12.2	12.2	12.2	12.2	12.2	12.2
Air Receiver(s)	1	1	1	1	1	2	2
Receiver Volume (litres)	1000 11 Bar	1500 11 Bar	1500 11 Bar	1500 11 Bar	3000 11 Bar	2000 11 Bar	3000 11 Bar
Air Receiver Total Capacity (litres)	1000	1500	1500	1500	3000	4000	6000
Dryer Model	PureMED21 10-7 Bar	PureMED35 10-7 Bar	PureMED52 10-7 Bar	PureMED52 10-7 Bar	PureMED71 10-7 Bar	PureMED104 10-7 Bar	PureMED142 10-7 Bar

1. Data measured and stated in accordance with ISO1217 Ed.4, Annex C & Annex E and Pneurop/Cagi PN2CPTC2 with one compressor on standby and with an air intake at 1013 mbar, 20°C and 0% RH. Tropical thermostats may reduce the free air delivery marginally.
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 in accordance with the Pneurop/Cagi PN8TNC2.2 test code. Subject to a tolerance of +/- 3 dB
4. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
5. Design flow in terms of free air delivered after losses at working pressure with reserve compressor(s) on standby. Tolerance ±5%.

HTM 2022 10 Bar 50Hz Combined Air Plant Specifications – GA MED

Model Name	MEDAIR – GD 4233600308	MEDAIR – GD 4233600309	MEDAIR – GD 4233600310	MEDAIR – GT 4233600311	MEDAIR – GQ 4233600312	MEDAIR – GH 4233600313
Model Description	MEDAIR- GD10-1709 HTM2022 50Hz	MEDAIR- GD10-2000 HTM2022 50Hz	MEDAIR- GD10-2978 HTM2022 50Hz	MEDAIR- GT10-4000 HTM2022 50Hz	MEDAIR- GQ10-8000 HTM2022 50Hz	MEDAIR- GH10-12000 HTM2022 50Hz
Free Air Delivered (l/min) ⁽¹⁾	1709	2000	2978	4000	8000	12000
Nominal Motor Power per Compressor (kW)	15	22	26	18	26	22
Compressor Model	GA15 MED 13 Bar	GA22 MED 13 Bar	GA26 MED 13 Bar	GA18 MED 13 Bar	GA26 MED 13 Bar	GA22 MED 13 Bar
Electrical Supply	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz
Starting Method	SD	SD	SD	SD	SD	SD
Full Load Current per Compressor (A) ⁽²⁾	33.3	47.4	57	40.7	57	47.4
Approx. Starting Current (A)	110	180	211	138	211	180
Motor Rated Supply per Compressor (A)	50	80	80	63	80	80
Compressor Configuration	Duplex	Duplex	Duplex	Triplex	Quadruplex	Hexaplex
Duty Compressors	1	1	1	2	3	5
Standby Compressors	1	1	1	1	1	1
Sound Pressure Level/ Compressor dB(A) ⁽⁴⁾	65	68	69	67	67	68
Cooling air flow per compressor (m³/s)	0.5	1.1	1.1	0.7	1.1	1.1
Compressor Oil Capacity (litres)	12.2	12.2	12.2	12.2	12.2	12.2
Air Receiver(s)	1	1	1	1	2	2
Receiver Volume (litres)	1000 14 Bar	1000 14 Bar	1500 14 Bar	2000 14 Bar	2000 14 Bar	3000 14 Bar
Air Receiver Total Capacity (litres)	1000	1000	1500	2000	4000	6000
Dryer Model	PureMED21 13-10 Bar	PureMED35 13-10 Bar	PureMED35 13-10 Bar	PureMED52 13-10 Bar	PureMED104 13-10 Bar	PureMED142 13-10 Bar

1. Data measured and stated in accordance with ISO1217 Ed.4, Annex C & Annex E and Pneurop/Cagi PN2CPTC2 with one compressor on standby and with an air intake at 1013 mbar, 20°C and 0% RH. Tropical thermostats may reduce the free air delivery marginally.
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 in accordance with the Pneurop/Cagi PN8TNC2.2 test code. Subject to a tolerance of +/- 3 dB
4. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
5. Design flow in terms of free air delivered after losses at working pressure with reserve compressor(s) on standby. Tolerance ±5%.

HTM 2022 4 Bar 50Hz Medical Air Plant Specifications – GA MED VSD+

Model Name	MEDAIR – GDV 4233600314	MEDAIR – GDV 4233600315	MEDAIR – GDV 4233600316	MEDAIR – GDV 4233600317	MEDAIR – GDV 4233600318	MEDAIR – GDV 4233600319	MEDAIR – GTV 4233600320
Model Description	MEDAIR- GDV4-1000 HTM2022 50Hz	MEDAIR- GDV4-1568 HTM2022 50Hz	MEDAIR- GDV4-1947 HTM2022 50Hz	MEDAIR- GDV4-2985 HTM2022 50Hz	MEDAIR- GDV4-3483 HTM2022 50Hz	MEDAIR- GTV4-4723 HTM2022 50Hz	MEDAIR- GTV4-6211 HTM2022 50Hz
Free Air Delivered (l/min) ⁽¹⁾	1000	1568	1947	2985	3483	4723	6966
Nominal Motor Power per Compressor (kW)	7	11	15	18	22	30	22
Compressor Model	GA7 MED VSD+ 7.5 Bar	GA11 MED VSD+ 7.5 Bar	GA15 MED VSD+ 7.5 Bar	GA18 MED VSD+ 7.5 Bar	GA22 MED VSD+ 7.5 Bar	GA30 MED VSD+ 7.5 Bar	GA22 MED VSD+ 7.5 Bar
Electrical Supply	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz
Starting Method	DOL	DOL	DOL	DOL	DOL	DOL	DOL
Full Load Current per Com- pressor (A) ⁽²⁾	18.4	24.4	31.4	44.0	59.0	72.5	59.0
Approx. Starting Current (A)	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Motor Rated Supply per Compressor (A)	25	25	50	50	63	100	63
Compressor Configuration	Duplex	Duplex	Duplex	Duplex	Duplex	Duplex	Triplex
Duty Compressors	1	1	1	1	1	1	2
Standby Compressors	1	1	1	1	1	1	1
Sound Pressure Level/ Compressor dB(A) ⁽⁴⁾	62	63	64	67	67	67	67
Cooling air flow per com- pressor (m ³ /s)	0.8	0.8	0.8	1.3	1.3	1.6	1.3
Compressor Oil Capacity (litres)	6.5	7.1	7.8	14.1	14.7	16	14.7
Air Receiver(s)	1	1	1	1	1	1	2
Receiver Volume (litres)	500 11 Bar	1000 11 Bar	1000 11 Bar	1500 11 Bar	2000 11 Bar	3000 11 Bar	2000 11 Bar
Air Receiver Total Capacity (litres)	500	1000	1000	1500	2000	3000	4000
Dryer Model	PureMED21 7.5-4 Bar	PureMED35 7.5-4 Bar	PureMED52 7.5-4 Bar	PureMED71 7.5-4 Bar	PureMED71 7.5-4 Bar	PureMED104 7.5-4 Bar	PureMED142 7.5-4 Bar

1. Data measured and stated in accordance with ISO1217 Ed.4, Annex C & Annex E and Pneurop/Cagi PN2CPTC2 with one compressor on standby and with an air intake at 1013 mbar, 20°C and 0% RH. Tropical thermostats may reduce the free air delivery marginally.
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 in accordance with the Pneurop/Cagi PN8TNC2.2 test code. Subject to a tolerance of +/- 3 dB
4. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
5. Design flow in terms of free air delivered after losses at working pressure with reserve compressor(s) on standby. Tolerance ±5%.

HTM 2022 7 Bar 50Hz Combined Air Plant Specifications – GA MED VSD+

Model Name	MEDAIR – GDV 4233600322	MEDAIR – GDV 4233600323	MEDAIR – GDV 4233600324	MEDAIR – GDV 4233600325	MEDAIR – GTV 4233600326	MEDAIR – GQV 4233600327
Model Description	MEDAIR- GDV7-1403 HTM2022 50Hz	MEDAIR- GDV7-2535 HTM2022 50Hz	MEDAIR- GDV7-3351 HTM2022 50Hz	MEDAIR- GDV7-4000 HTM2022 50Hz	MEDAIR- GTV7-6703 HTM2022 50Hz	MEDAIR- GQV7-10109 HTM2022 50Hz
Free Air Delivered (l/min) ⁽¹⁾	1403	2535	3351	4000	6703	10109
Nominal Motor Power per Compressor (kW)	11	18	22	30	22	22
Compressor Model	GA11 MED VSD+ 10 Bar	GA18 MED VSD+ 10 Bar	GA22 MED VSD+ 10 Bar	GA30 MED VSD+ 10 Bar	GA22 MED VSD+ 10 Bar	GA22 MED VSD+ 10 Bar
Electrical Supply	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz
Starting Method	DOL	DOL	DOL	DOL	DOL	DOL
Full Load Current per Compressor (A) ⁽²⁾	24.4	44.0	59.0	72.5	59.0	59.0
Approx. Starting Current (A)	n/a	n/a	n/a	n/a	n/a	n/a
Motor Rated Supply per Compressor (A)	25	50	63	100	63	63
Compressor Configuration	Duplex	Duplex	Duplex	Duplex	Triplex	Quadruplex
Duty Compressors	1	1	1	1	2	2
Standby Compressors	1	1	1	1	1	1
Sound Pressure Level/ Compressor dB(A) ⁽⁴⁾	63	67	67	67	67	67
Cooling air flow per compressor (m³/s)	0.8	1.3	1.3	1.6	1.3	1.3
Compressor Oil Capacity (litres)	7.1	14.1	14.7	16	14.7	14.7
Air Receiver(s)	1	1	1	1	2	2
Receiver Volume (litres)	1000 11 Bar	1500 11 Bar	2000 11 Bar	2000 11 Bar	2000 11 Bar	3000 11 Bar
Air Receiver Total Capacity (litres)	1000	1500	2000	2000	4000	6000
Dryer Model	PureMED21 10-7 Bar	PureMED35 10-7 Bar	PureMED52 10-7 Bar	PureMED71 10-7 Bar	PureMED104 10-7 Bar	PureMED142 10-7 Bar

1. Data measured and stated in accordance with ISO1217 Ed.4, Annex C & Annex E and Pneurop/Cagi PN2CPTC2 with one compressor on standby and with an air intake at 1013 mbar, 20°C and 0% RH. Tropical thermostats may reduce the free air delivery marginally.
2. These are typical figures and may vary with the specific motor used. Consult the motor nameplate for exact figures.
3. Two standby compressors should be provided unless the automatic backup manifold is of sufficient capacity to deliver the system design flow.
4. Measured in free field conditions in accordance with the Pneurop/Cagi PN8TNC2.2 test code. Subject to a tolerance of +/- 3 dB
5. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
6. Design flow in terms of free air delivered after losses at working pressure with reserve compressor(s) on standby. Tolerance ±5%.

HTM 2022 10 Bar 50Hz Combined Air Plant Specifications – GA MED VSD+

Model Name	MEDAIR – GDV 4233600328	MEDAIR – GDV 4233600329	MEDAIR – GDV 4233600330	MEDAIR – GTV 4233600331	MEDAIR – GQV 4233600332	MEDAIR – GPV 4233600333
Model Description	MEDAIR- GDV10-1445 HTM2022 50Hz	MEDAIR- GDV10-2000 HTM2022 50Hz	MEDAIR- GDV10-2864 HTM2022 50Hz	MEDAIR- GTV10-5727 HTM2022 50Hz	MEDAIR- GQV10-8000 HTM2022 50Hz	MEDAIR- GPV10-12000
Free Air Delivered (l/min) ⁽¹⁾	1445	2000	2864	5727	8000	12000
Nominal Motor Power per Compressor (kW)	15	18	22	22	22	26
Compressor Model	GA15 MED VSD+ 13 Bar	GA18 MEDVSD+ 13 Bar	GA22 MED VSD+ 13 Bar	GA22 MED VSD+ 13 Bar	GA26 MED VSD+ 13 Bar	GA26 MED VSD+ 13 Bar
Electrical Supply	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz	400 V 3~ 50 Hz
Starting Method	DOL	DOL	DOL	DOL	DOL	DOL
Full Load Current per Compressor (A) ⁽²⁾	18.4	44.0	59.0	59.0	59.4	59.4
Approx. Starting Current (A)	n/a	n/a	n/a	n/a	n/a	n/a
Motor Rated Supply per Compressor (A)	50	50	63	63	63	63
Compressor Configuration	Duplex	Duplex	Duplex	Triplex	Quadruplex	Pentaplex
Duty Compressors	1	1	1	2	3	4
Standby Compressors	1	1	1	1	1	1
Sound Pressure Level/ Compressor dB(A) ⁽⁴⁾	64	67	67	67	67	67
Cooling air flow per compressor (m³/s)	0.8	1.3	1.3	1.3	1.6	1.6
Compressor Oil Capacity (litres)	7.8	14.1	14.7	14.7	15.5	15.5
Air Receiver(s)	1	1	1	1	2	2
Receiver Volume (litres)	1000 14 Bar	1000 14 Bar	1500 14 Bar	3000 14 Bar	2000 14 Bar	3000 14 Bar
Air Receiver Total Capacity (litres)	1000	1000	1500	3000	4000	6000
Dryer Model	PureMED21 13-10 Bar	PureMED21 13-10 Bar	PureMED35 13-10 Bar	PureMED71 13-10 Bar	PureMED104 13-10 Bar	PureMED142 13-10 Bar

1. Data measured and stated in accordance with ISO1217 Ed.4, Annex C & Annex E and Pneurop/Cagi PN2CPTC2 with one compressor on standby and with an air intake at 1013 mbar, 20°C and 0% RH. Tropical thermostats may reduce the free air delivery marginally.
2. These are typical figures and may vary with the specific motor used. Consult the motor nameplate for exact figures.
3. Two standby compressors should be provided unless the automatic backup manifold is of sufficient capacity to deliver the system design flow.
4. Measured in free field conditions in accordance with the Pneurop/Cagi PN8TNC2.2 test code. Subject to a tolerance of +/- 3 dB
5. Other models and layouts are available to suit particular site requirements. Contact your local representative for support.
6. Design flow in terms of free air delivered after losses at working pressure with reserve compressor(s) on standby. Tolerance ±5%.

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