

As-fitted drawings  
**to assist the safe  
operation of your  
MGPS**

HTM 02-01 Part B: Operational  
Management - MGPS Drawing Compliance



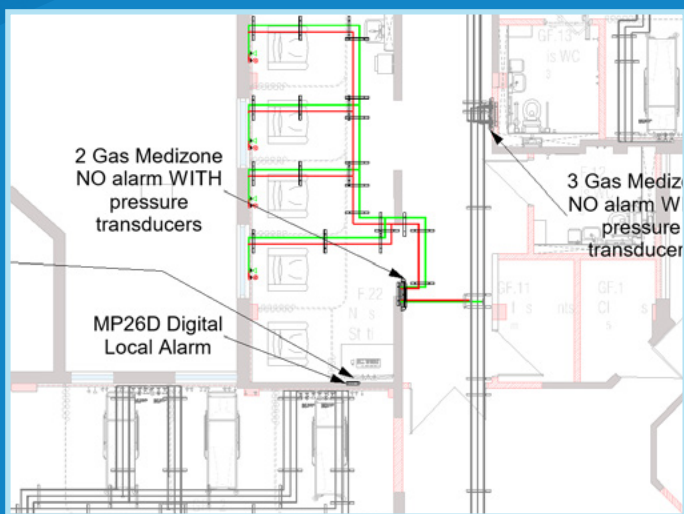
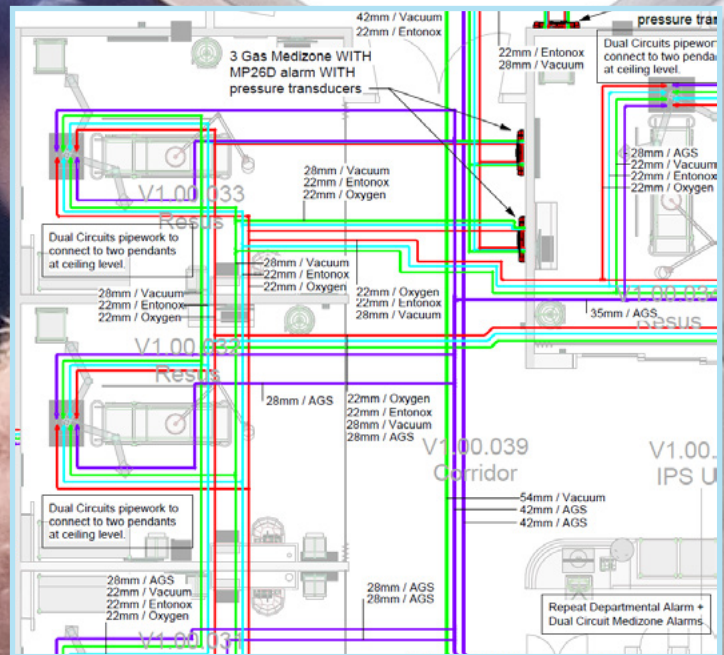
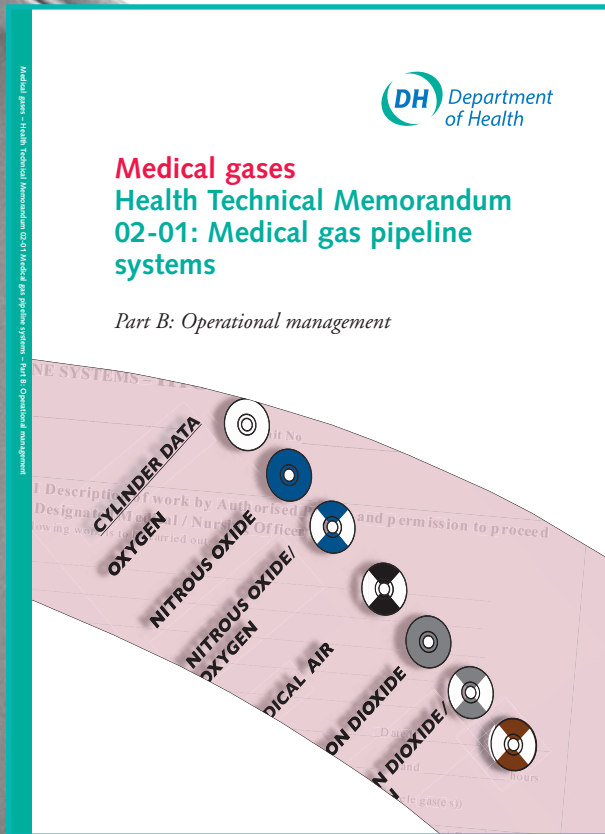
**Medical gases**  
**Health Technical Memorandum**  
**02-01: Medical gas pipeline systems**

Part B: Operational management

# Compliance and drawing requirements

Estate departments require accurate, up-to-date drawings of the medical gas pipeline system (MGPS). These must show the installed main pipe sections and branches, departments served, control valves, terminal units and alarm systems for each medical gas service.

BeaconMedaes can provide on-site audits to review and update your drawings and ensure they reflect the as-fitted MGPS installed. After all, as installers and maintenance providers ourselves, we fully understand that your medical gas requirements expand or change over time.



## Audit

### On-site survey to identify medical gas pipelines

The purpose of the audit is to identify where your medical gas pipeline distribution system is installed and accurately represent this on architectural drawings that show which emergency valves control which departments and rooms.

The drawings are required by the facility's Authorised Person(s) and should be consulted when any planned work and system closure is required to ensure gas flow is not interrupted or inadvertently closed from rooms or patients.

Pipe networks distribute from medical gas manifolds, vacuum pumps or air compressors situated inside or outside the facility. With large acute hospitals, it is not uncommon to have multiple systems of the same gas type, especially low-level suction such as active anaesthetic gas scavenge systems.

Plant rooms may be installed on the building's roof, basement or mezzanine levels. It is essential to have clearly marked-up as-fitted or schematic drawings showing exactly where pipes are located. Once completed, drawings can be stored on our secure cloud-based network, MyMedGas, for easy access by all stakeholders.

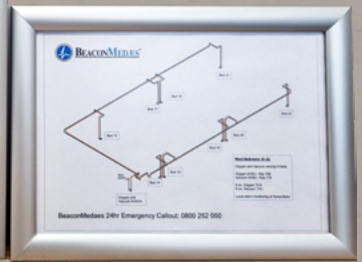
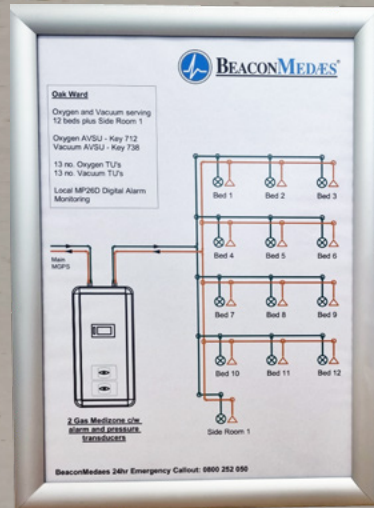
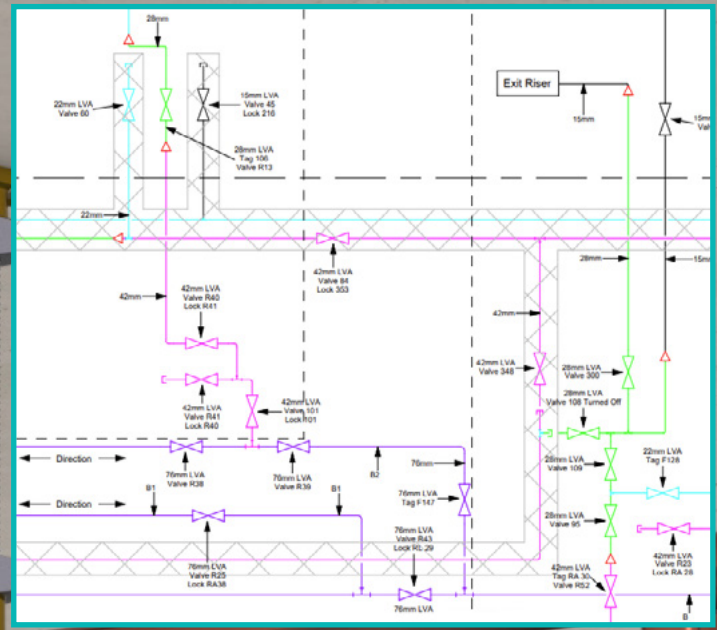


# AVSU and key labelling

Proper valve labelling and identification is crucial in any facility to ensure safety and efficiency. Each valve must have its own unique identification number, displayed at each isolation valve and shown on the corresponding drawings.

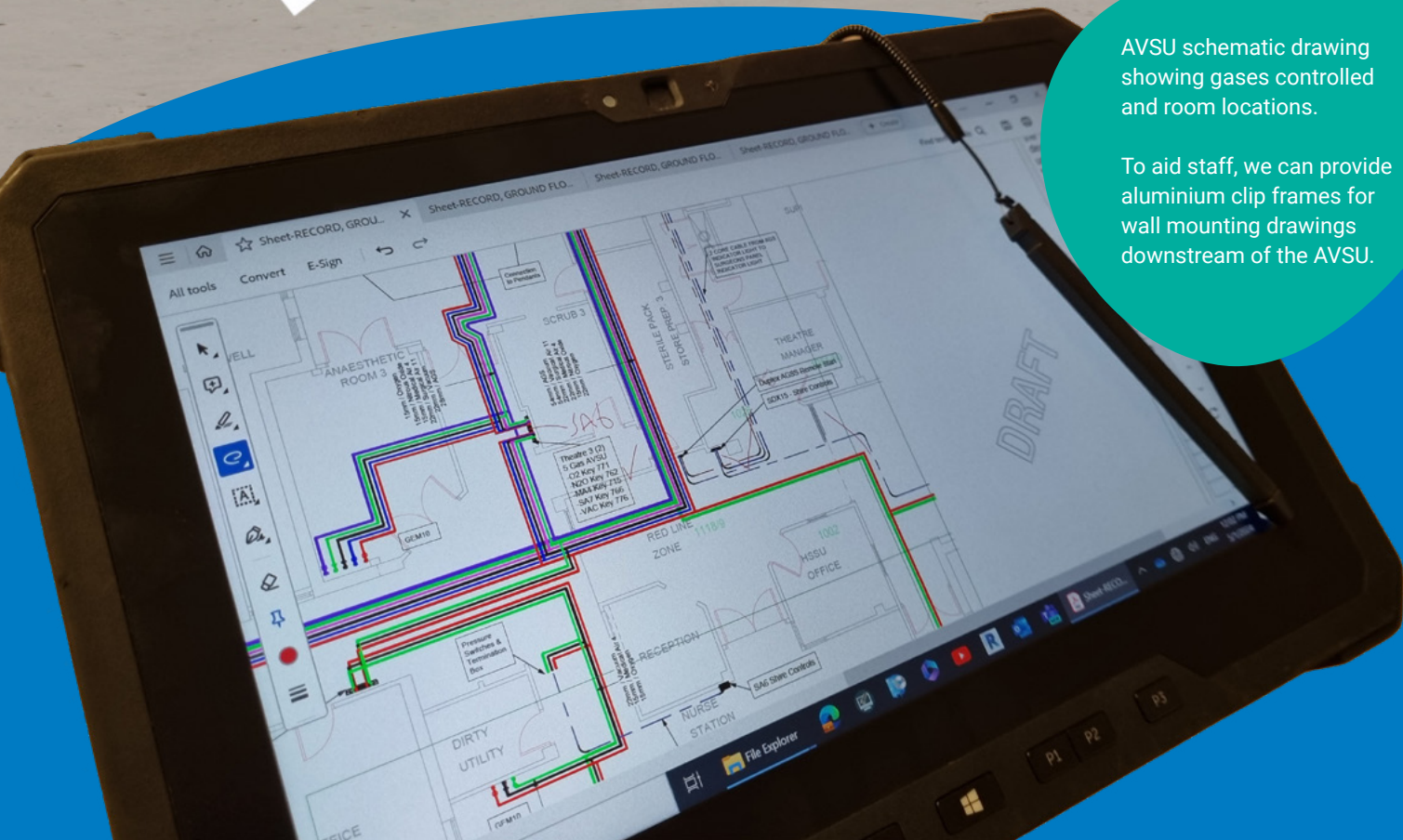
Incorrect operation of shut-off valves can cause significant harm if, for example, someone closes the wrong one. Risk can be reduced by using appropriate valve labelling and identification practices.

BeaconMedaes can provide numerous types of drawings including schematic or riser diagrams, as well as labelling, tagging and key schedules - including key cabinets, if required.



AVSU schematic drawing showing gases controlled and room locations.

To aid staff, we can provide aluminium clip frames for wall mounting drawings downstream of the AVSU.



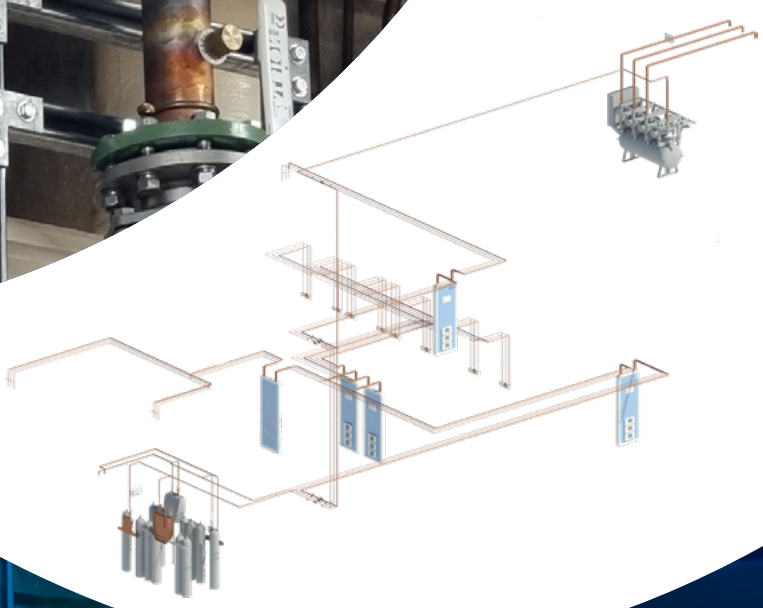


# System capacity review

Over time, it is inevitable that changes will be made to the facility and medical gas pipeline system. This could include add-ons or reductions from the original flow demand of the system. The effect of this on pressure drop or system performance may not always be clear, so a full review of the existing system may be required.

Completing a capacity review includes running theoretical calculations of the existing system, identifying expected pressure drops throughout, and evaluating whether the existing medical air plant, vacuum plant or gas manifolds are sized correctly.

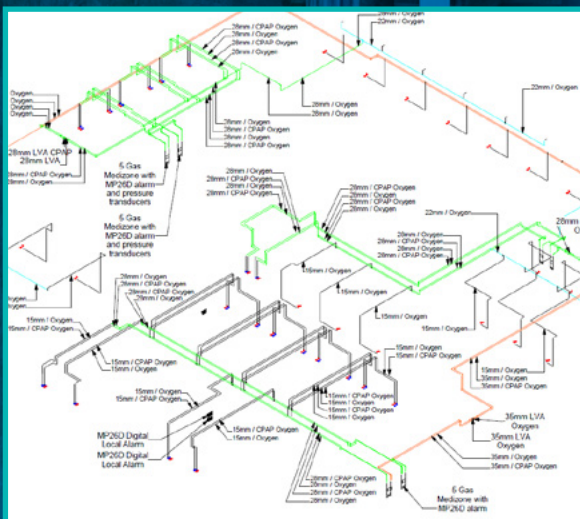
Once complete, a clear picture of the system's available capacity is available. BeaconMedaes can provide this service with information taken from either existing as-fitted drawings and supporting information or based on full validation survey.



# Pressure drop and flow rate calculations

BeaconMedaes has been producing pressure drop and flow rate calculations for more than 50 years.

All calculations can be for pre- or post-installation work and are produced in line with HTM 02-01 Part A: section 4 - Gas Flow.

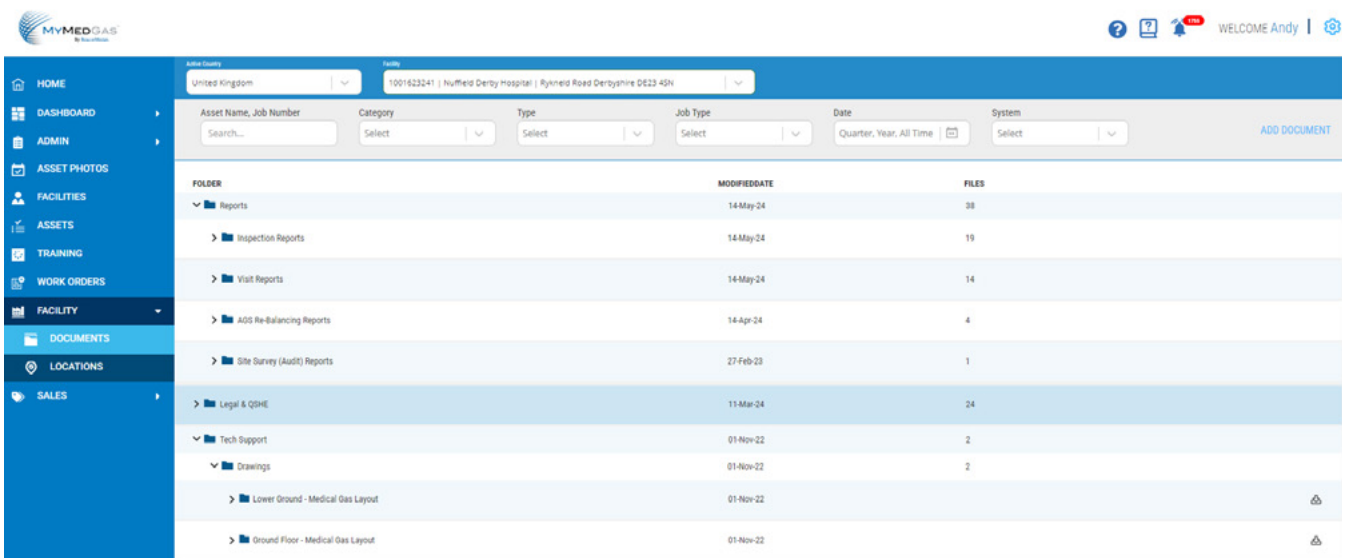
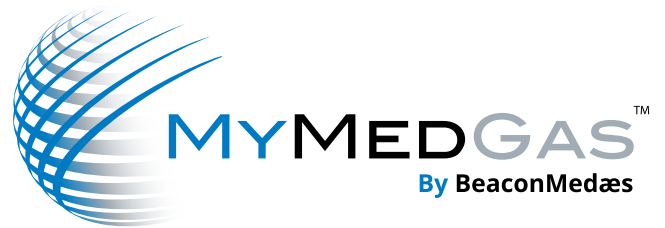
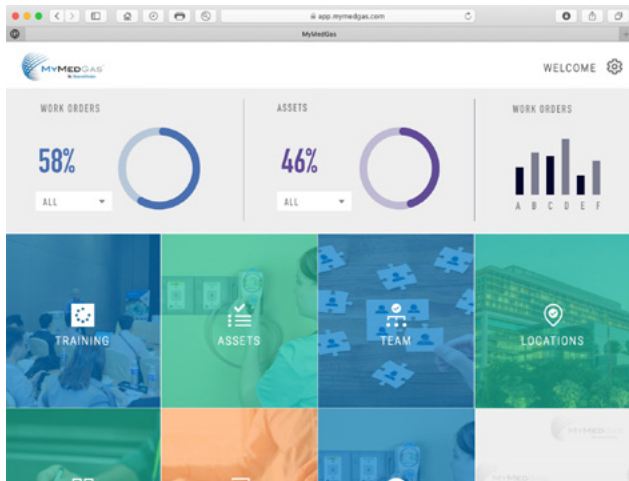


AGS Isometric Pressure Drop Oxy 1 Recovery				
A	B	C	D	E
Comments	Length	Flow	Size	System Name
A-B 123	2.5	334.0 L/min	42	Oxygen 12
B-C 123	167.6		22	
C-D 1232	0.0	334.0 L/min	22	Oxygen 10
E-F 1232	0.0	334.0 L/min	22	Oxygen 5
F-G 123	6.5	334.0 L/min	42	Oxygen 5
G-H 123	7.0	324.0 L/min	42	Oxygen 5
H-I 123	8.0	314.0 L/min	42	Oxygen 5
I-J 12	7.0	162.0 L/min	42	Oxygen 5
J-K 12	7.0	152.0 L/min	42	Oxygen 5
K-L 1	6.5	52.0 L/min	15	Oxygen 5
L-N 1	1.5	52.0 L/min	15	Oxygen 5
N-O 12	0.0	52.0 L/min	22	Oxygen 5
P-Q 12	0.0	52.0 L/min	22	Oxygen 16
Q-R 1	5.0	52.0 L/min	15	Oxygen 16
R-S 1	4.5	28.0 L/min	15	Oxygen 16
S-T 1	13.5	16.0 L/min	15	Oxygen 16
T-U 1	2.0	10.0 L/min	15	Oxygen 16
U-V 1	2.0	10.0 L/min	15	Oxygen 16
V-W 1	0.0	10.0 L/min	15	Oxygen 16
Grand total 62	231.5			



Once the as-fitted drawings are completed, they can be uploaded to our secure cloud-based asset and risk management platform, MyMedGas.

With your permission, we can provide your external Authorised Person or Authorising Engineer with access to MyMedGas. This means that all competent persons can access live and up-to-date drawings from any location, at any time.



Life is in the details.®

