B002

DATASHEET

CO2 & N2 Filling Station

The B002 CO2 & N2 filling bench is designed for MRO maintenance stations looking for a solution for filling the CO2/N2 cylinders fitted to aeronautical evacuation systems. Our bench can handle cylinders fitted to evacuation slides (Evac System RVA) on Boeing B777 (CMM 25-65-22, 25-65-56), Airbus A320 (CMM 25-65-17 , 25-65-21) and Airbus A330/A340 (CMM 25-62-19, 25-62-31) as well as cylinders for liferafts (Liferaft RVA) of various capacities (CMM 25-65-06, 25-65-26, 25-65-32, 25-65-33).

To carry out filling process, it has a single filling line that enables the cylinder to be successively charged with liquid CO2, nitrogen and then pressurised without the need for dismantling or operator intervention between each filling stage.
A cooling circuit integrated into the filling line limits cylinder heating.
The bench is also equipped with a cylinder temperature monitoring device that can be used to interrupt the process in the event of overheating. The bench is equipped with automatic and secure regulation devices that enable the progressive and regular generation of the weight and pressure charge rates recommended by the CMMs. The touch-sensitive HMI allows selection of the cylinder's P/N (from an internal database), the filling program and monitoring of the filling process with display of the measurements of the various instruments.

The integrated instruments (pressure and weight sensors) are Plug & Play: they are therefore automatically detected by the bench, simplifying maintenance and enabling them to be calibrated in an external laboratory.

KEY STRENGHTS

- Automatic & ergonomic filling system
- Compatible with different cylinder sizes
- Automatic et secure process
- Plug & Play pressure sensors
- Integrated software with touchscreen HMI

APPLICATIONS

X	MRO
	TEST R&D
	CALIBRATION
	PRODUCTION
	OTHER

KEY WORDS

- Evacuation Reservoir and Valve Assembly (RVA)
- Liferaft Reservoir and Valve Assembly (RVA)
- CO2 & N2 Filling system

TECHNICAL SPECIFICATIONS

Test capacity	Evacuation System Reservoir and Valve Assembly (RVA) CMM 25-65-22 B777 Evac System RVA — CMM 25-65-56 B777 Evac System RVA CMM 25-65-17 A320 Evac System RVA — CMM 25-62-19 A330/A340 Evac System CMM 25-65-21 A320 Evac System RVA — CMM 25-62-31 A330/A340 Evac System Liferaft Reservoir & Valve Assembly (RVA) CMM 25-65-06 10-Person Liferaft RVA — CMM 25-65-32 Liferaft RVA CMM 25-65-26 46-Person Liferaft RVA — CMM 25-65-33 56-Person Liferaft RVA
Liquid CO2 circuit	Automatic filling according to a set weight with precision digital scales Dosage device with fill rate control (max: 0.05lb/sec) Integrated high-pressure pump upstream of the circuit
Nitrogen circuit	Automatic filling according to a weight or pressure setpoint with digital pressure sensor Pressure regulation with gradual, regular pressurization, independent of flow rate or volume to be filled, and control of fill rate (50PSI/sec max)
Fiiling line	Automatic circuit selection (N2 or CO2) Monitoring of cylinder temperature during filling, with built-in safety device in the event of overheating In-line fluid cooling circuit (N2 & CO2) before filling Partial emptying of cylinder for manual load adjustment Top-up function.
Cylinders dimensions	Diameter : Ø100 to Ø265mm Height : H250 to H945mm
Cylinders mounting	Vertical mounting on weighing stand with integrated digital scale * Manually adjustable holding mechanism to suit cylinder size
Cylinder connection	Filling hose (0.75m) with charging coil and JIC AN4 female swivel elbow fitting Schrader fitting adapter available on demand
Measurement chains	Filling pressure Measuring range (FS): 0 – 400bar Precision: < 0.2% FS Output signal : Numeric (CANOPEN) Weight Measuring range (FS) ** 0-36kg 0-60kg Precision < ±1g < ±1.5g Resolution 0.2g 0.4g Output signal Numeric (RS232) Cylinder temperature Measuring range (FS): -20 … +100°C Precision: < 1%of reading Output signal : Analog
Options and additional accessories	- Horizontal mounting support - External Thermo-Chiller - External Nitrogen Booster Station B018

(*) Horizontal mounting support available on demand
(**) to be defined before ordering depending on the maximum size of cylinders to be filled

TECHNICAL SPECIFICATIONS		
HMI	PLC with integrated colour touch HMI (3.5" screen) Home menu with P/N selection from internal database Guided test sequence with operator instructions	
Software functions	Display of bench measurements (pressure, weight, temperature) Test sequencing with configuration of the bench's N2 and CO2 circuits Regulation of weight and pressure setpoints in accordance with CMM recommendations Internal database with list of PNs and associated filling instructions	
Electrical supply	200-240VAC ±10% network; 50/60Hz - 15A (110V 60Hz compatibility on demand) IEC C14 socket connection	
Pneumatic supply	Fluid: Pressure: Fitting:	Upstream filtered dry air 6 to 7 bar (85 to 100PSI) BSPP1/2" Female
Nitrogen supply	Fluid: Pressure: Flow capacity: Fittings:	Nitrogen gas 220 to 350bar 5000 NL/min @ 200 bar Stainless steel double ferrule 8mm OD
Liquid CO2 supply	Fluid: Pressure: Fittings:	Liquid CO2 15 to 80bar Stainless steel double ferrule 8mm OD
Exhaust network	Minimum DN15 drain pipe connected outside the building, suitable for draining a cylinder. Connection to bench via ringed sleeve for DN15 hose.	
Chilled water network **	Cooled water circuit between 5°C to 15°C Pressure: 1 to 3bar Flow capacity: 500L/h Connected to the bench via 2 ringed sleeves for DN15 hose (IN/OUT)	
Operating temperature	+10 to +40°C	
Storage temperature	+5 to +45°C	
Dimensions	1600 x 1000 x 1650 mm (L x P x H)	
Weight	185 kg	
Accessories included	/	

(*) possibility of supplying the bench from an N2 cylinder frame with the external booster station B018
(**) not required with External Thermo-chiller option

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DRAWINGS