



LSM QCABAIR® (pat.pend.) CABIN
PRESSURISER/FILTRATION CORE
CONNECTION MIXING MODULE
FOR A PC450 EXCAVATOR


The following is the design concept for the **LSM QCABAIR® (pat. pend.)** Cabin Pressuriser/Filtration Core Connection Mixing Module for Mobile and Fixed Plant.

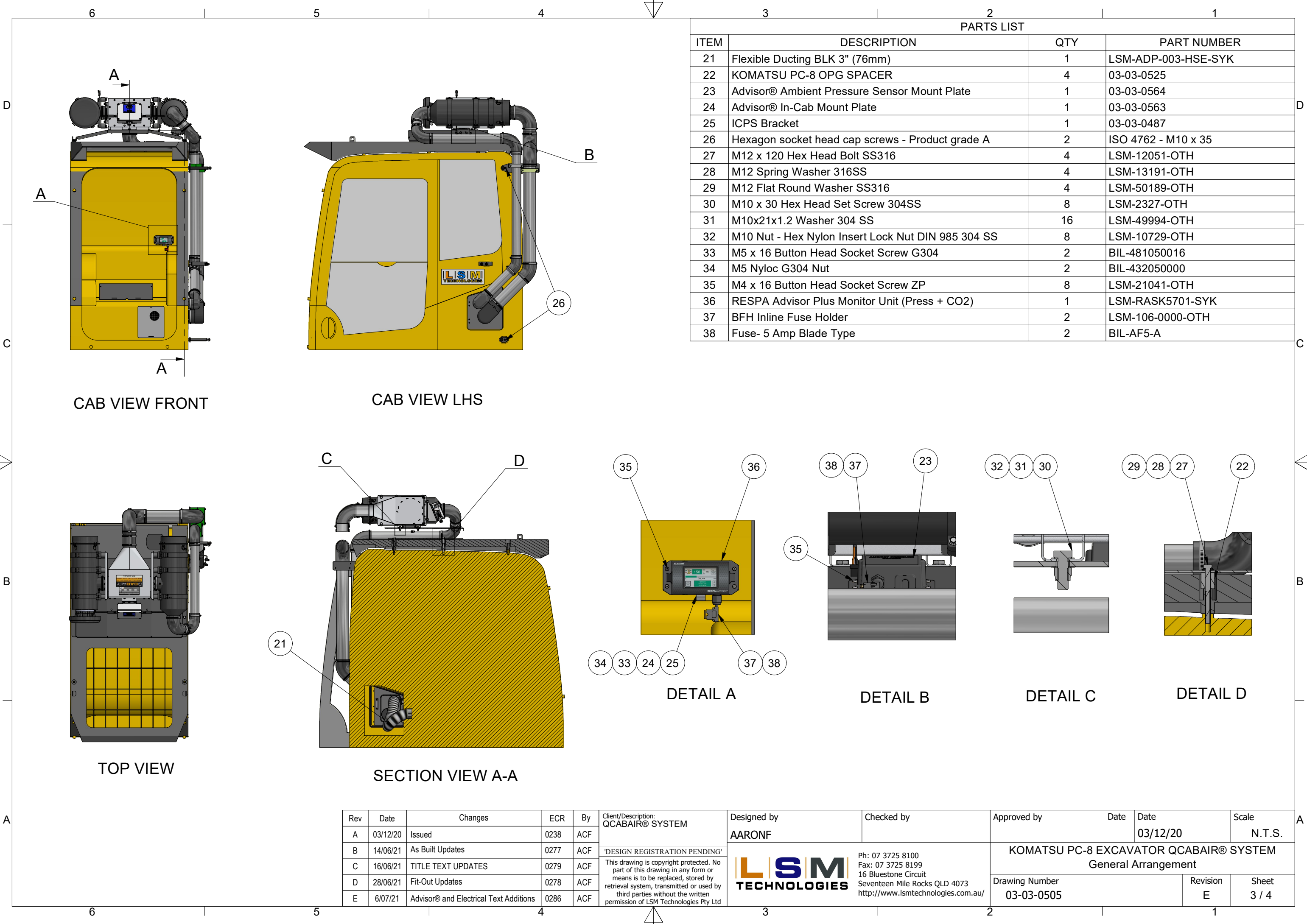
The concept arrangement consists of:

- a) External Air Pressuriser/Filtration Unit for Pre-cleaning, Filtration and Pressurisation of the Cabin. This unit Pre-cleans the External Air (>96% of debris is returned to the external environment), provides Filtered "Fresh Air" and Air Flow to pressurise the Cabin.
- b) Recirculation Air Filtration Unit extracts air from the Cabin, Filters and returns the clean air back to the Cabin. The primary function of this unit is to remove debris that may have become entrapped in the Cabin due to ingress through open and closing of Doors / Windows or via Operators Clothing / Boots, etc.
- c) **Syklone Advisor®+** is to monitor the Cabin Pressure/CO₂ (optional) and Alarm if the Cabin Pressure drops below, or CO₂ increases beyond the set-point thresholds. Audible and visual alarms are provided to indicate that the Cabin sealing has been compromised but primarily to indicate that the External Air Pressuriser Filter Element has become loaded, air flow has diminished and so the Filter Element requires replacement.

Operation of the **LSM QCABAIR®** Cabin Pressuriser / Filtration Core Connection Mixing Module is that the Recirculation Air Unit draws air from the Cabin, Filters and then combines this air with "fresh" filtered air from the External Air Unit through a common Plenum to the Cabin. The Objective of the technology is to provide:

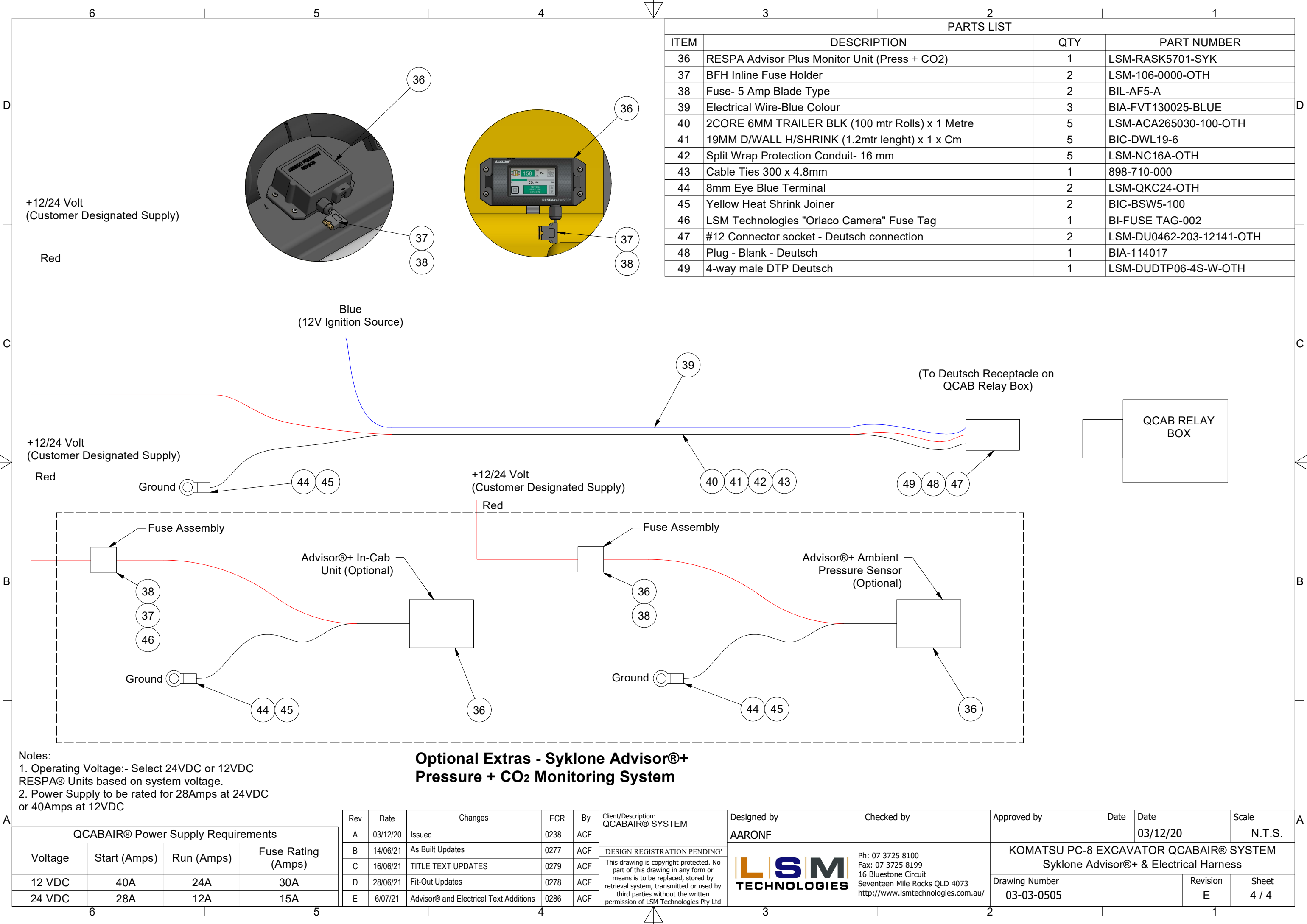
- **Highest protection of Operators Health to OEL Legislation Compliance for Airborne Particulate / Fibre Exposure.**
- **Increase Safety- avoids CO₂ concentration in the Cabin that can cause fatigue risk, micro-sleeps, drowsiness, and acidosis.**
- **Filter Element service life up to 1,000 hours.**
- **Protection and extension of HVAC Service Life and functionality.**
- **DOP certified to EN1822 and ISO29463.**
- **Exceeds ISO13875 Compliance**
- **>H13 HEPA Filtration EN1822**
- **External Air Flow approx. 100-150 Cfm / 50-70 l/sec.**
- **Cabin pressures (max 200pa)**
- **Stainless Steel powder coated Core Plenum**

Rev	Date	Changes	ECR	By	Client/Description: QCABAIR® SYSTEM	Designed by	Checked by	Approved by	Date	Date	Scale
A	03/12/20	Issued	0238	ACF	<div>'DESIGN REGISTRATION PENDING'</div> <div>This drawing is copyright protected. No part of this drawing in any form or means is to be replaced, stored by retrieval system, transmitted or used by third parties without the written permission of LSM Technologies Pty Ltd</div>	AARONF				03/12/20	N.T.S.
B	14/06/21	As Built Updates	0277	ACF		<div><div>Ph: 07 3725 8100 Fax: 07 3725 8199 16 Bluestone Circuit Seventeen Mile Rocks QLD 4073 http://www.lsmtechnologies.com.au/</div></div>	KOMATSU PC-8 EXCAVATOR QCABAIR® SYSTEM TITLE PAGE				
C	16/06/21	TITLE TEXT UPDATES	0279	ACF			Drawing Number			Revision	Sheet
D	28/06/21	Fit-Out Updates	0278	ACF			03-03-0505			E	1 / 4
E	6/07/21	Advisor® and Electrical Text Additions	0286	ACF							



PARTS LIST			
ITEM	DESCRIPTION	QTY	PART NUMBER
21	Flexible Ducting BLK 3" (76mm)	1	LSM-ADP-003-HSE-SYK
22	KOMATSU PC-8 OPG SPACER	4	03-03-0525
23	Advisor® Ambient Pressure Sensor Mount Plate	1	03-03-0564
24	Advisor® In-Cab Mount Plate	1	03-03-0563
25	ICPS Bracket	1	03-03-0487
26	Hexagon socket head cap screws - Product grade A	2	ISO 4762 - M10 x 35
27	M12 x 120 Hex Head Bolt SS316	4	LSM-12051-OTH
28	M12 Spring Washer 316SS	4	LSM-13191-OTH
29	M12 Flat Round Washer SS316	4	LSM-50189-OTH
30	M10 x 30 Hex Head Set Screw 304SS	8	LSM-2327-OTH
31	M10x21x1.2 Washer 304 SS	16	LSM-49994-OTH
32	M10 Nut - Hex Nylon Insert Lock Nut DIN 985 304 SS	8	LSM-10729-OTH
33	M5 x 16 Button Head Socket Screw G304	2	BIL-481050016
34	M5 Nyloc G304 Nut	2	BIL-432050000
35	M4 x 16 Button Head Socket Screw ZP	8	LSM-21041-OTH
36	RESPA Advisor Plus Monitor Unit (Press + CO2)	1	LSM-RASK5701-SYK
37	BFH Inline Fuse Holder	2	LSM-106-0000-OTH
38	Fuse- 5 Amp Blade Type	2	BIL-AF5-A

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B	14/06/21	As Built Updates	0277	ACF									
C	16/06/21	TITLE TEXT UPDATES	0279	ACF				KOMATSU PC-8 EXCAVATOR QCABAIR® SYSTEM General Arrangement					
D	28/06/21	Fit-Out Updates	0278	ACF				Drawing Number 03-03-0505			Revision E	Sheet 3 / 4	
E	6/07/21	Advisor® and Electrical Text Additions	0286	ACF									



PARTS LIST			
ITEM	DESCRIPTION	QTY	PART NUMBER
36	RESPA Advisor Plus Monitor Unit (Press + CO2)	1	LSM-RASK5701-SYK
37	BFH Inline Fuse Holder	2	LSM-106-0000-OTH
38	Fuse- 5 Amp Blade Type	2	BIL-AF5-A
39	Electrical Wire-Blue Colour	3	BIA-FVT130025-BLUE
40	2CORE 6MM TRAILER BLK (100 mtr Rolls) x 1 Metre	5	LSM-ACA265030-100-OTH
41	19MM D/WALL H/SHRINK (1.2mtr lenght) x 1 x Cm	5	BIC-DWL19-6
42	Split Wrap Protection Conduit- 16 mm	5	LSM-NC16A-OTH
43	Cable Ties 300 x 4.8mm	1	898-710-000
44	8mm Eye Blue Terminal	2	LSM-QKC24-OTH
45	Yellow Heat Shrink Joiner	2	BIC-BSW5-100
46	LSM Technologies "Orlaco Camera" Fuse Tag	1	BI-FUSE TAG-002
47	#12 Connector socket - Deutsch connection	2	LSM-DU0462-203-12141-OTH
48	Plug - Blank - Deutsch	1	BIA-114017
49	4-way male DTP Deutsch	1	LSM-DUDTP06-4S-W-OTH

Notes:
1. Operating Voltage:- Select 24VDC or 12VDC
RESPA® Units based on system voltage.
2. Power Supply to be rated for 28Amps at 24VDC
or 40Amps at 12VDC

Optional Extras - Syklone Advisor®+
Pressure + CO2 Monitoring System

QCABAIR® Power Supply Requirements				Rev	Date	Changes	ECR	By	Client/Description: QCABAIR® SYSTEM	Designed by AARONF	Checked by	Approved by	Date 03/12/20	Scale N.T.S.
Voltage	Start (Amps)	Run (Amps)	Fuse Rating (Amps)	A	03/12/20	Issued	0238	ACF	This drawing is copyright protected. No part of this drawing in any form or means is to be replaced, stored by retrieval system, transmitted or used by third parties without the written permission of LSM Technologies Pty Ltd		Ph: 07 3725 8100 Fax: 07 3725 8199 16 Bluestone Circuit Seventeen Mile Rocks QLD 4073 http://www.lsmtechnologies.com.au/	KOMATSU PC-8 EXCAVATOR QCABAIR® SYSTEM Syklone Advisor®+ & Electrical Harness		
12 VDC	40A	24A	30A	B	14/06/21	As Built Updates	0277	ACF						
24 VDC	28A	12A	15A	C	16/06/21	TITLE TEXT UPDATES	0279	ACF				Drawing Number 03-03-0505	Revision E	Sheet 4 / 4
				D	28/06/21	Fit-Out Updates	0278	ACF						
				E	6/07/21	Advisor® and Electrical Text Additions	0286	ACF						