



SmokeVent LCS/SCS Installation and Maintenance Instructions

THESE INSTRUCTIONS MUST BE READ FULLY BEFORE COMMENCING INSTALLATION

IMPORTANT NOTE

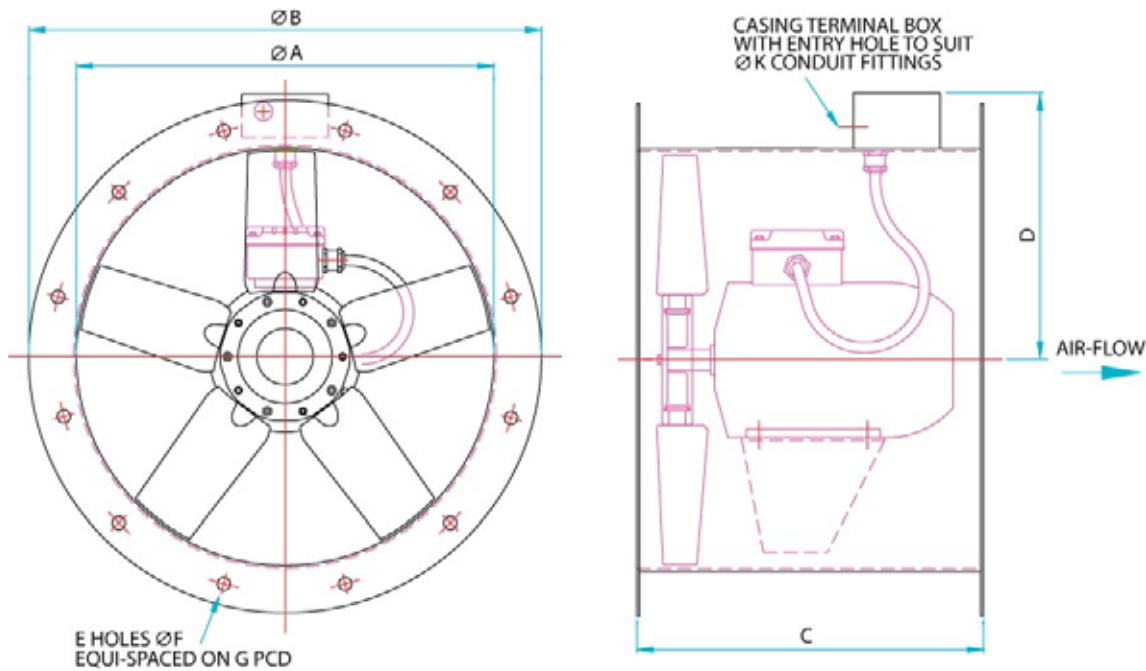
SmokeVent Axial Fan Units are part of a declared/tested and certified product range as defined within EN12101-3:2002. They may not be modified, altered or disassembled without the prior agreement of Elta Fans Ltd. They are manufactured under strict quality procedures and carry their own product CE mark under EC Certificate of Conformity No: 0086-CPD-493001. A full range of fan accessories have also been tested and certified. The use of items not supplied by Elta Fans Ltd may invalidate the certification under which the overall equipment is supplied.

SmokeVent fans provide a critical / life saving function in the event of their operation in the smoke mode and must be inspected and maintained under a verifiable maintenance system in accordance with these instructions.

Code LCS/SCS		Motor Frame	A	B	C	D	F	G	H	J
F200/F300	F400									
315	315	80	315	375	400	220	2	8	10	355
355	355	80/90	355	425	400	220	2	8	10	395
400	400	80/90	400	475	400	220	3	8	12	450
400	400	100/112	400	475	450	-	3	8	12	450
450	450	80/90	450	530	400	220	3	8	12	500
450	450	100/112	450	530	450	-	3	8	12	500
500	500	80/90	500	585	400	220	3	12	12	560
500	500	100/112	500	585	450	250	3	12	12	560
500	500	132	500	585	570	-	3	12	12	560
560	560	80/90	560	645	400	220	3	12	12	620
560	560	100/112	560	645	450	250	3	12	12	620
560	560	132	560	645	570	400	3	12	12	620
560	560	160	560	645	710	-	3	12	12	620
630	630	80/90	630	715	400	250	3	12	12	690
630	630	100/112	630	715	450	250	3	12	12	690
630	630	132	630	715	570	400	5	12	12	690
630	630	160	630	715	710	-	4	12	12	690
710	710	80/90/100/112	710	795	450	250	3	16	12	770
710	710	132	710	795	570	300	3	16	12	770
710	710	160	710	795	710	400	4	16	12	770

Code LCS/SCS		Motor Frame	A	B	C	D	F	G	H	J
F200/F300	F400									
710	710	180	710	795	790	500	4	16	12	770
710	710	200	710	795	840	550	5	16	12	770
800	800	80/90/100/112	800	885	450	250	3	16	12	860
800	800	132	800	885	570	300	3	16	12	860
800	800	160	800	885	710	400	4	16	12	860
800	800	180	800	885	790	500	4	16	12	860
800	-	200	800	885	840	570	5	16	12	860
900	900	80/90/100/112	900	1000	450	250	4	16	15	970
900	900	132	900	1000	570	300	4	16	15	970
900	900	160	900	1000	710	450	4	16	15	970
900	900	180	900	1000	790	500	4	16	15	970
1000	1000	80	1000	1110	450	-	4	16	15	1070
1000	1000	90/100	1000	1110	420	300	4	16	15	1070
1000	1000	112/132	1000	1110	590	300	4	16	15	1070
1000	1000	160	1000	1110	790	420	5	16	15	1070
1000	1000	180	1000	1110	790	500	5	16	15	1070
1000	-	200	1000	1110	840	550	5	16	15	1070
1000	-	225	1000	1110	1000	-	6	16	15	1070
1120	1120	112/132	1120	1240	550	350	3	20	15	1190
1120	1120	160	1120	1240	750	420	4	20	15	1190
1120	1120	180	1120	1240	790	500	5	20	15	1190
1120	1120	200	1120	1240	-	550	5	20	15	1190
1250	1250	100	1250	1380	450	-	5	20	15	1320
1250	1250	112/132	1250	1380	590	300	5	20	15	1320
1250	1250	160	1250	1380	790	420	5	20	15	1320
1250	1250	180	1250	1380	790	500	5	20	15	1320
1250	-	200	1250	1380	840	550	6	20	15	1320
1250	-	225/250	1250	1380	1000	590	6	20	15	1320
1400	-	132	1400	1540	590	300	5	20	15	1470
1400	-	160	1400	1540	790	420	5	20	15	1470
1400	-	180	1400	1540	790	500	5	20	15	1470
1400	-	200	1400	1540	840	550	6	20	15	1470
1400	-	225	1400	1540	1000	590	6	20	15	1470
1400	-	250	1400	1540	1000	650	6	20	15	1470
1400	-	280	1400	1540	1200	-	6	20	15	1470
1400	-	315	1400	1540	1300	-	6	20	15	1470
1600	-	132	1600	1750	590	-	5	24	19	1680
1600	-	160/180	1600	1750	790	-	5	24	19	1680
1600	-	200	1600	1750	840	550	6	24	19	1680
1600	-	225/250	1600	1750	1100	-	6	24	19	1680
1600	-	280	1600	1750	1200	-	6	24	19	1680
1600	-	315	1600	1750	1300	-	6	24	19	1680
1800	-	160/180	1800	1950	790	-	5	24	19	1880

Code LCS/SCS		Motor Frame	A	B	C	D	F	G	H	J
F200/F300	F400									
1800	-	200/225	1800	1950	950	550	6	24	19	1880
1800	-	250	1800	1950	1100	-	6	24	19	1880
1800	-	280	1800	1950	1200	-	8	24	19	1880
1800	-	315	1800	1950	1300	-	8	24	19	1880
2000	-	160/180	2000	2150	790	-	5	24	19	2080
2000	-	200/225	2000	2150	950	550	6	24	19	2080
2000	-	250	2000	2150	1100	-	6	24	19	2080
2000	-	280	2000	2150	1200	-	8	24	19	2080
2000	-	315	2000	2150	1300	-	8	24	19	2080



1.0 GENERAL

- 1.1 It is important these Installation and Maintenance Instructions are fully adhered to.
- 1.2 Full details of the unit supplied are shown on the product nameplate. The product CE nameplate must be checked to ensure that the stated **Fire Class**, together with the indicated **Temperature** and **Time** are equal to or greater than the installation into which the fan unit is being placed. If in doubt about any detail contact Elta Fans Ltd or its agents for clarification.
- 1.3 All electrical installation must be carried out by suitably qualified and competent personnel in accordance with all current statutory requirements.
- 1.4 These instructions cover only the Elta Fans Ltd product and do not include the supply or installation of any safety equipment that may be required e.g. adequate guarding or protection from rotating parts and proper electrical isolation.
- 1.5 Any declarations made by Elta Fans Ltd about product installation and safety, are dependant on the fan equipment being used within installations which themselves meet the requirements of the relevant Standards and Directives appropriate to the site.
- 1.6 The fan is designed for use in an ambient temperature of -20°C up to $+40^{\circ}\text{C}$ and up to 95% relative humidity. The fan is not suitable for corrosive or explosive atmospheres.
- 1.7 The installer should provide easy access to the fan to facilitate future maintenance.

- 1.8 The installer should ensure the fan is adequately supported by the use of tested and certified accessories.
- 1.9 This product is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the product by a person responsible for their safety. Children should be supervised to ensure that they do not play with the product.

2.0 STORAGE

- 2.1 If the fan is not to be used immediately then it should be stored in a clean, dry, vibration free location.
- 2.2 The impeller must be spun by hand (ensuring that it does not come to rest in the same position) on a monthly basis to prevent hardening of the grease and possible damage to the bearings.

3.0 INSTALLATION

WARNING – The fan must be isolated from the power supply during installation and maintenance. The fan must be earthed in accordance with the local regulations.

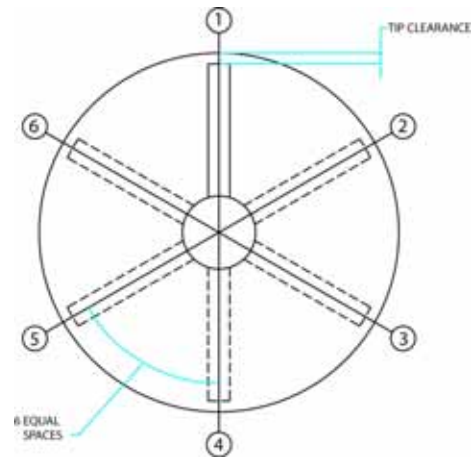
- 3.1 Upon receipt, the fan equipment should be visually inspected to check for any damage. Ensure that the impeller is free to rotate.
- 3.2 Successful fan operation in the event of a fire is dependent on the installed fan having the required impeller blade tip clearance. The min/max tip clearances must be checked and recorded to ensure that no transit or site damage/changes to these clearances has occurred.

Min/Max Tip Clearances for EN12101-3 F200 & F300 Fan					
Fan Dia	Tip Clearance - mm		Fan Dia	Tip Clearance - mm	
	Minimum	Maximum		Minimum	Maximum
250	5.0	6.3	900	7.0	8.8
315	5.0	6.3	1000	8.0	10.0
400	5.5	6.9	1120	8.5	10.6
500	5.5	6.9	1250	10.0	12.5
560	5.5	6.9	1400	11.0	13.8
630	6.0	7.5	1600	12.0	15.0
710	6.0	7.5	1800	13.5	16.9
800	6.5	8.1	2000	14.5	18.1

Min/Max Tip Clearances for EN12101-3 F400 Fan					
Fan Dia	Tip Clearance - mm		Fan Dia	Tip Clearance - mm	
	Minimum	Maximum		Minimum	Maximum
250	5.0	6.3	710	8.0	10.0
315	5.0	6.3	800	8.5	10.6
400	5.5	6.9	900	9.0	11.3
500	6.0	7.5	1000	10.0	12.5
560	6.5	8.1	1120	11.0	13.8
630	7.5	9.4	1250	12.0	15.0

- 3.3 Select one impeller blade and position it at each of the six radial positions per the diagram on the page below. Note down the measured tip clearance in the adjacent table.

Fan Dia	Tip Clearance - mm		
	Measured	Minimum	Maximum
1	
2			
3			
4			
5			
6			



- 3.4 The recorded tip clearances together with a copy of these instructions should be kept within a site product/plant file for subsequent reference by fire authorities/other relevant bodies.
- 3.5 If there are any queries concerning the fan equipment, Elta Fans Ltd should be contacted prior to the installation.
- 3.6 The fan must be securely mounted in the desired position to suit the application. The fan can be mounted in both horizontal and vertical installations for both 'Reservoir' and 'Non-Reservoir' applications.
- 3.7 In order to protect the fan from any adverse vibrations, or to avoid any transmission from the fan to the surroundings, it is recommended that full unit vibration isolation is utilized.
- 3.8 Check the details on the motor rating plate to ensure that the correct power supply (voltage, frequency and phase) is available.
An incorrect power supply will lead to permanent damage to the fan motor.
- 3.9 Refer to the appropriate wiring diagram. Ensure that all earth connections are made.
- 3.10 Suitably rated flexible conduit should be used for connection to the fan terminal box.

Note: The flexible conduit should not be used as an earth conductor.

- 3.11 Means for electrical disconnection must be incorporated in the wiring installation in accordance with the relevant wiring and electrical regulations.
- 3.12 Precaution must be taken to locate the exhaust discharge terminal so as to avoid the backflow of gases into the room from the open flue of gas or other fuel burning appliances.

4.0 ACCESSORY INSTALLATION

Note: Only certified and tested accessories should be used. The use of non-certified accessories may invalidate the fan certification.

- 4.1 DAMPERS – Damper blades should be moved through their full range to ensure smooth operation. If the damper is not supplied fitted to the fan unit, the orientation and operation of the dampers should be checked carefully upon installation to the adjacent fan/ductwork items.
- 4.2 FLEXIBLE CONNECTORS – Ensure that the ductwork is correctly aligned and the connectors are not over taut yet not too slack.
- 4.3 ANTI-VIBRATION MOUNTINGS – These will be of spring type in compression and will be fitted (or provided for fitting) under the fan mounting feet.

5.0 START-UP

- 5.1 Before power is supplied to the unit, check that the wiring is correct as per the fan connection diagram.
- 5.2 At initial start-up, check that impeller rotation and airflow direction is correct.
- 5.3 Check that the motor amperage draw does not exceed the nameplate rating.

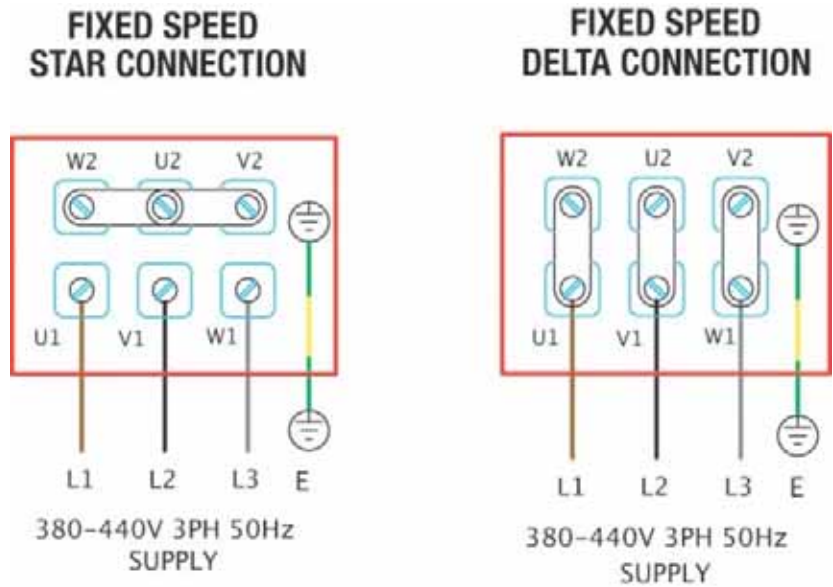
6.0 FAN MAINTENANCE

- 6.1 Inspection of the fan at least once every 12 months is recommended to ensure that the motor, fan blades, and supporting guards, are clean. Any build up of dust and deposits on the blades or guards should be removed using a non-abrasive cleaner.
- 6.2 All fastenings should be checked for tightness. In addition, all rotating items should be checked.

- 6.3 Bearings generally are of the 'sealed for life' type. Should re-greasable bearings be present, then metallic grease lines are brought out to the casing exterior surface with clear statement made as to the grease type and quantity to be used.
- 6.5 Fan accessories should be checked, cleaned and replaced as necessary.

WARNING – Fuses/circuit breakers are used to provide short circuit protection only. A starter panel with overload protection should be used to protect the motor. All motor protection devices must be automatically by-passed and/or deactivated in the event of a fire. Only a suitably qualified and competent person may carry out maintenance after the electrical supply has been isolated.

WIRING



Note: For two speed motor wiring connection details refer to the motor nameplate.

GUARANTEE

Elta Fans Ltd will, free of charge, within a period of 1 year from the date of despatch from their works, repair or at its option replace any goods which are proved to have defects as a result of defective materials or workmanship. The goods **MUST** be returned to Elta Fans Ltd carriage paid for examination.

Elta Fans Ltd

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