S-SERIES
Professional Transducers

SMProfessional®

SWF 18150



SWF 21200



SMProfessional Speakers Guideline

Have you ever blown a loudspeaker? Then you probably don't want to do it again. **Here's how not to shred your** cones…

- There are two ways in which a moving coil drive unit may be damaged. One is to drive it at too high a level for too long. The coil will get hotter and hotter and eventually will melt at one point, breaking the circuit ('thermal damage'). The drive unit will entirely cease to function.
- The other is to 'shock' the drive unit with a loud impulse. This can happen if a microphone is dropped, or placed too close to a theatrical pyrotechnic effect. The impulse won't contain enough energy to melt the coil, but it may break apart the turns of the coil, or shift it from its central position with respect to the magnet 'mechanical damage'.
  The drive unit will still function, but the coil will scrape against the magnet producing a very harsh distorted sound.
- Many drive units can be repaired, but of course damage is best avoided in the first place. The trick is to listen to the loudspeaker. It will tell you when it is under stress if you listen carefully enough.
- To get the best performance from a loudspeaker, the amplifier should be rated higher in terms of watts. It wouldn't be unreasonable to connect a 200 W amplifier to a 100 W speaker, and it won't blow the drive units unless you push the level too high.
- It is up to the sound engineer to control the level. Suppose, a 100 W amplifier was connected to a 200 W loudspeaker. The sound engineer might push the level so high that the amplifier will start clipping. Clipping produces high levels of high frequency distortion & will easily damage the speaker (especially the HF diaphragms).

TECHNICAL SPECIFICATIONS

MODEL			SWF 18150	SWF 21200
General specification				
Nominal diameter		mm/inch	460/18	543/21
Rated impedance		Ω	8	8
Peak power		Watts	3000	4000
RMS power		Watts	1500	2000
Sensitivity (SPL1w@1m)		dB	98	98
Frequency range		Hz	30-2000	33-2000
Minimum impedance		Ω	6.2	6.2
Max Excursion Before Damage (peak to peak)		mm/inch	----	----
Voice coil diameter		mm/inch	127/5	127/5
Voice coil material			Copper	Copper
Voice coil winding depth		mm/inch	30/1.26	30/1.2
Number of layer			2	2
Kind of layer			Inside / Outside	
Cone material			Glass fiber	
Cone design			Curved	
Surround Material			Polycotton	
Surround Design		mm/kg	Triple Roll	
Magnet size / Weight		mm/kg	280x140x25/ 200oz	280x140x25/ 200oz
Magnet type			Ferrite	Ferrite
Top plate thickness		mm	20	20
Basket			Die cast	Die cast
Thiele-Small parameters				
Resonance frequency	Fs	Hz	30	33
DC resistance	Re	Ω	6.2	6.2
Mechanical Q factor	Qms	-	19.5	14.8
Electrical Q factor	Qes	-	0.53	0.48
Total Q factor	Qts	-	0.51	0.47
BL factor	BL	T.M	34.8	35.7
Effective moving mass	Mms	Gr	378	398
Equivalent cas air load	Vas	Liters	126	274
Effective piston area	Sd	M2 (sqm)	120	1.7
Max.linear excursion	Xmax	mm	±12	±12
Voice-Coil inductance @ 1 KHz	LelK	mH	2.16	3.12
Half-Space effeiciency	Eff	%	2.10	2.4
Mounting & Shipping information				
Overall diameter		mm/inch	460/18.11	543/21.38
Bolt circle diameter		mm/inch	440/17.32	525/20.67
Baffle mount diameter (PCD)*		mm/inch	422/16.61	495/19.49
Depth		mm/inch	200/7.9	228/8.98
Net weight		Kg	19.5	20.4
Shipping box (single carton box)		mm	495 X 495 X 285	615 X 615 X 300

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RevO/S Series/July 2026