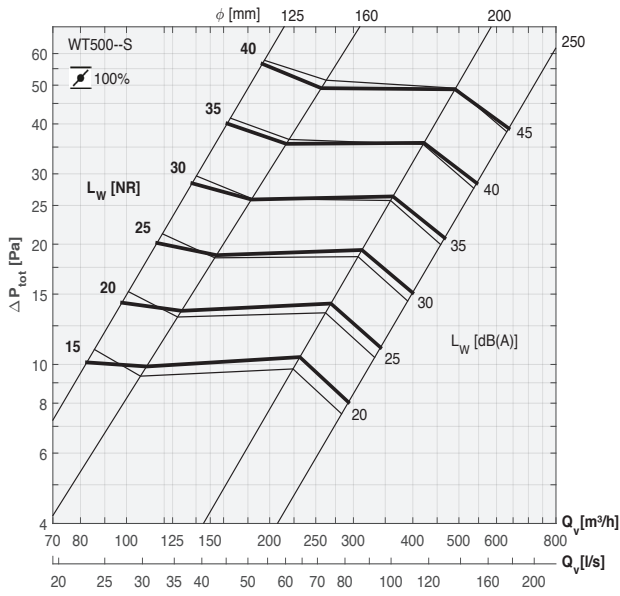


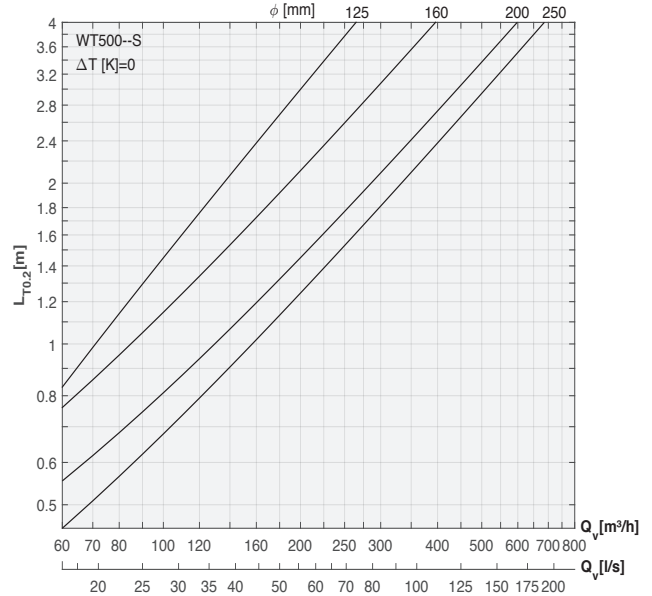
SELECTION

SUPPLY

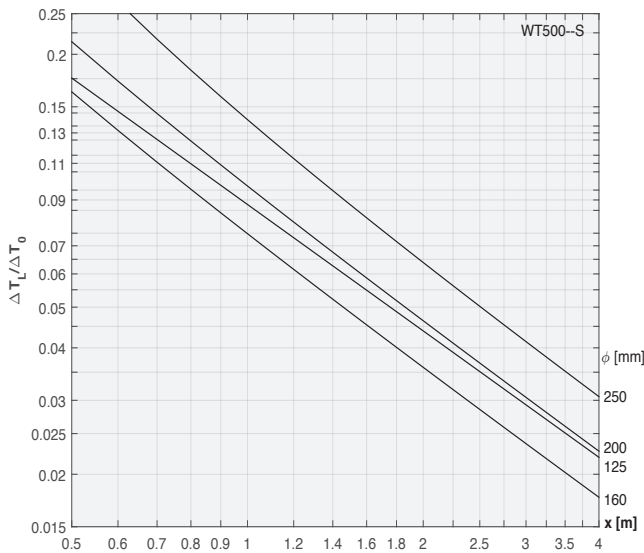
SOUND POWER, PRESSURE DROP



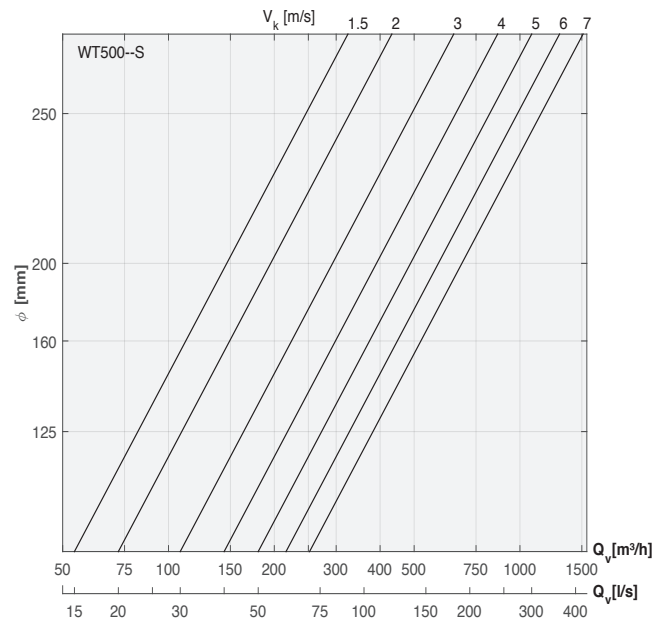
THROW



TEMPERATURE



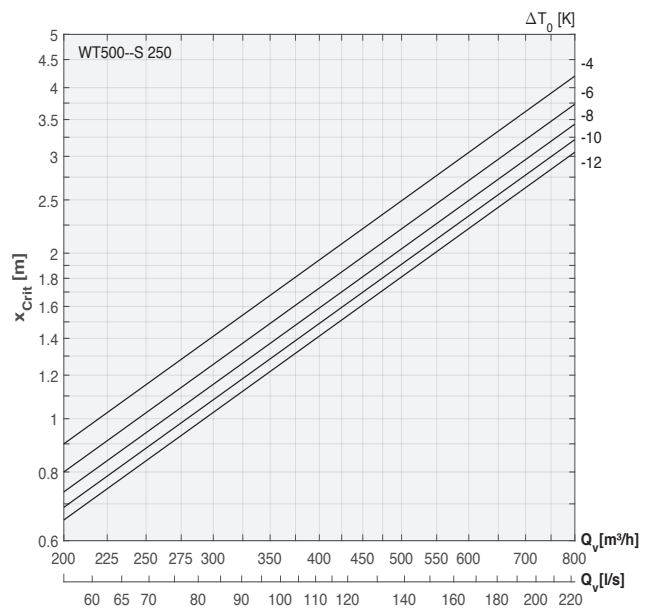
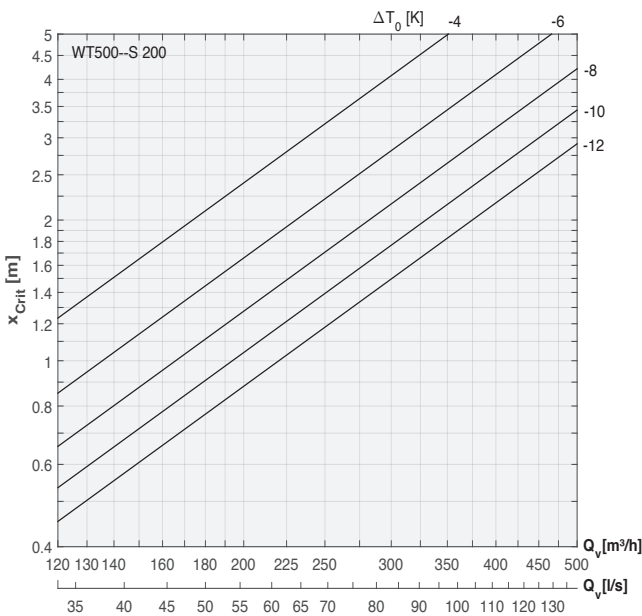
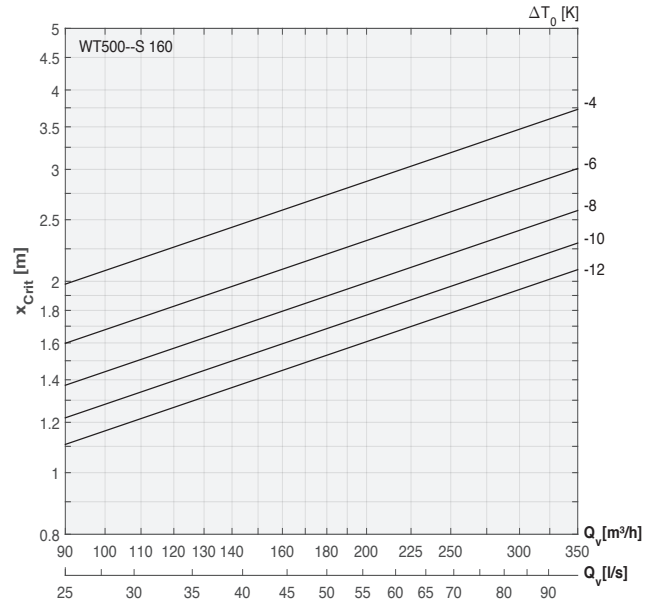
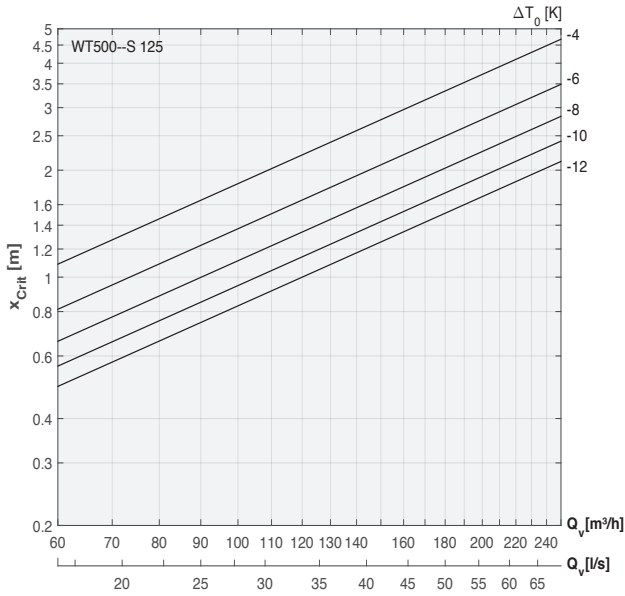
AIR DISCHARGE VELOCITY



To calculate the airflow behavior in rooms as well as performance data such as sound level and pressure loss, please consult our [FACT selection software](#).

SELECTION

CRITICAL DISTANCE



To calculate the airflow behavior in rooms as well as performance data such as sound level and pressure loss, please consult our [FACT selection software](#).

SELECTION

AIR DISCHARGE SURFACE AREA

	Ø [mm]	
	200	250
A _k [m ²]	0,0271	0,456

SELECTION EXAMPLE

Known data		
supply air flow rate, Q _v	[m ³ /h]	150
supply air temperature, T ₀	[°C]	20
ambient temperature, T _a	[°C]	24
max. allowable sound pressure, l _p	[dB(A)]	30
acoustic room attenuation, ΔL _r	[dB(A)]	8
max. air velocity in occupied zone	[m/s]	0,2
Selection from graphs		
Sound		
requested max. sound power, L _{w,L} (= L _p + ΔL _r)	[dB(A)]	38
proposal of size, Ø	[mm]	160
Pressure drop		
total pressure, ΔP _{tot}	[Pa]	18
Velocity		
air discharge surface area A _k	[m ²]	0,0207
discharge velocity V _k , Q _v /A _k (or by graph)	[m/s]	2,0
throw, L _{T0.2}	[m]	1,6
Temperature		
critical distance @ ΔT ₀ = T _a - T ₀ , x _{crit}	[m]	2,5
temperature coefficient @ L _{T0.2,L} , ΔT _x /ΔT ₀ x c _{L_{T0.2,L}}	[-]	0,045
-->temperature T _x = T _a - (ΔT _x /ΔT ₀) (T _a - T ₀)	[°C]	23,8

LEGEND

Symbol	Unit	
A _k	[m ²]	effective air discharge surface area (measured)
L _w	[NR] / [dB(A)]	sound power
L _{T0.2}	[m]	distance at which the jet centreline velocity decreases to 0.2 m/s
ΔP _{tot}	[Pa]	total pressure loss
Q _v	[m ³ /h] / [l/s]	airflow
ΔT _x	[K]	difference between ambient temperature and jet centreline temperature at distance x
ΔT ₀	[K]	temperature difference between ambient air and supply air
V _k	[m/s]	air discharge velocity based on A _k
x	[m]	distance measured from the diffuser/grille's centre
x _{crit}	[m]	critical distance at which the jet detaches from the ceiling because of ΔT ₀
\overline{z}	[%]	valve position (100% = open)