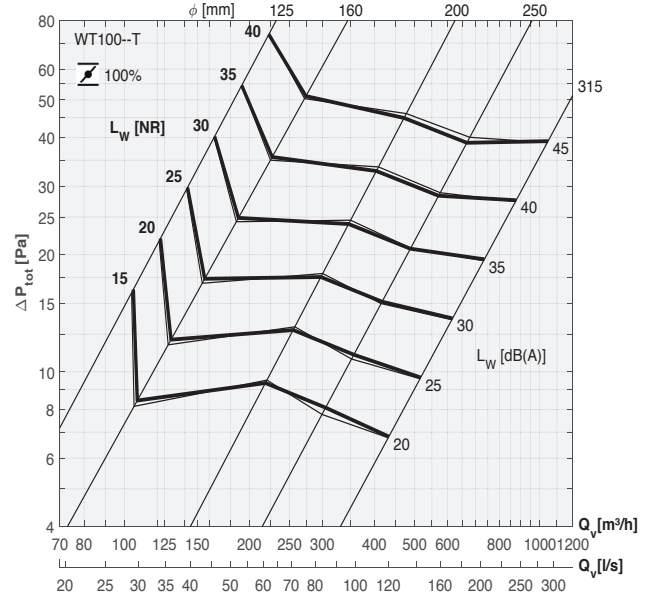
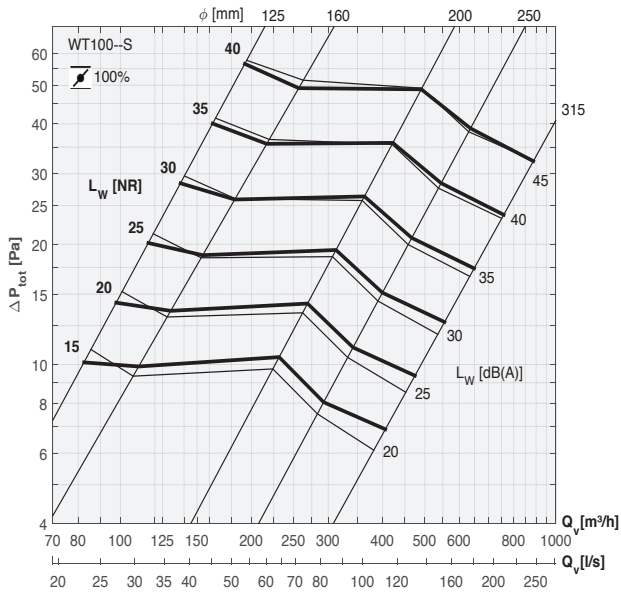


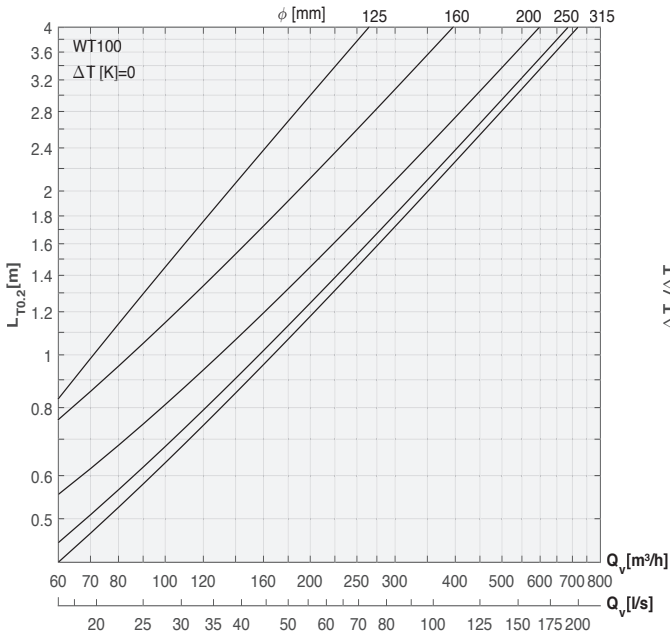
SELECTION

SUPPLY

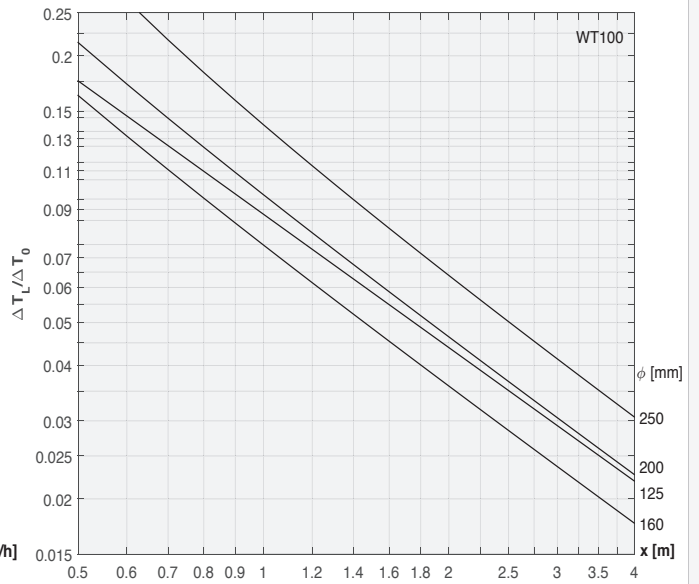
SOUND POWER, PRESSURE DROP



THROW



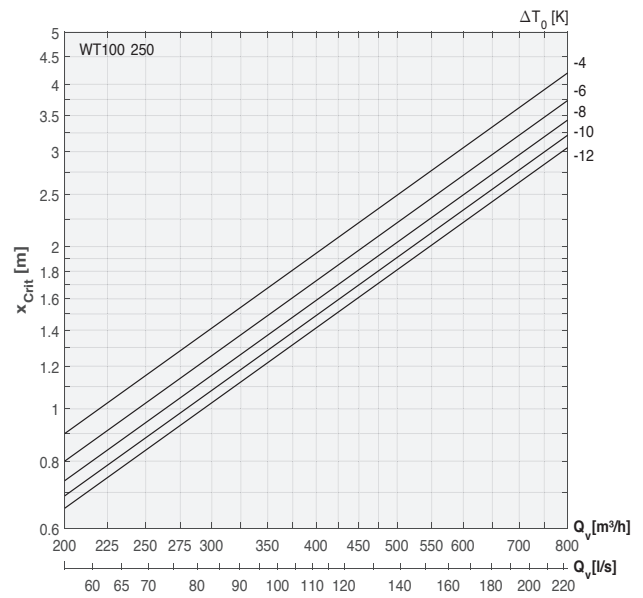
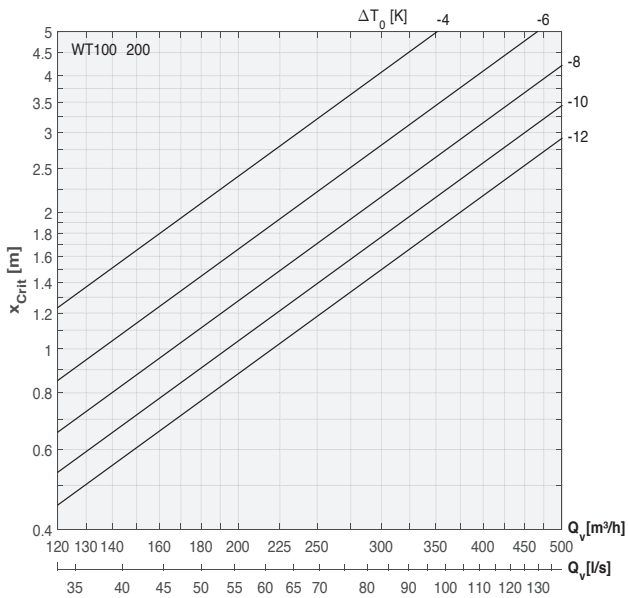
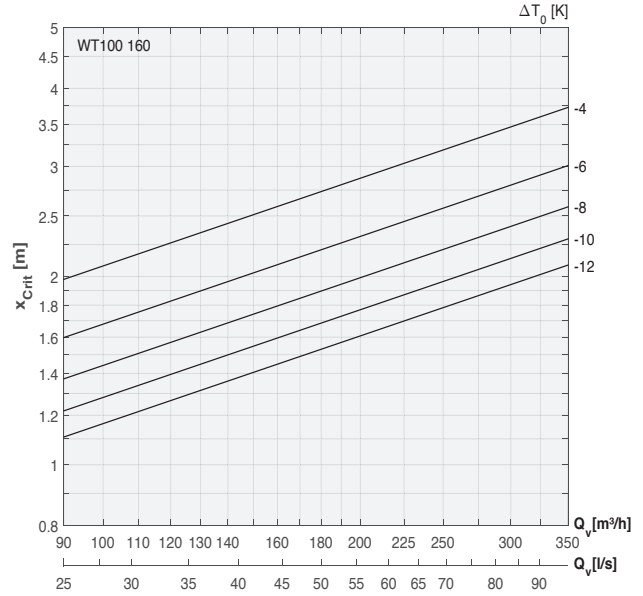
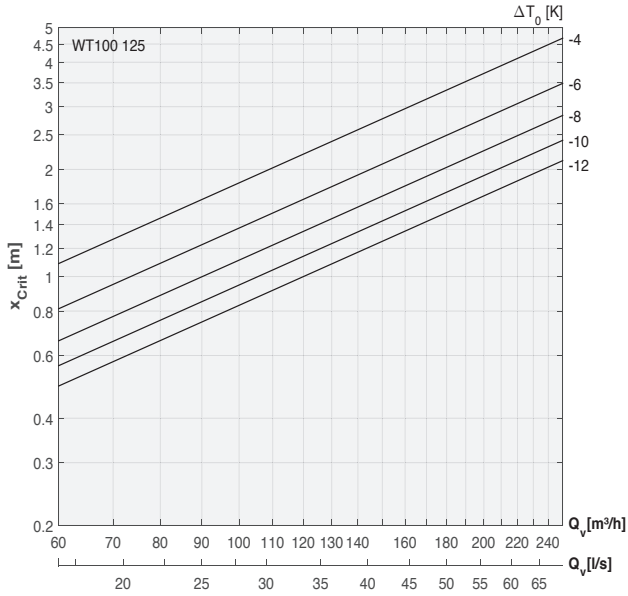
TEMPERATURE



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

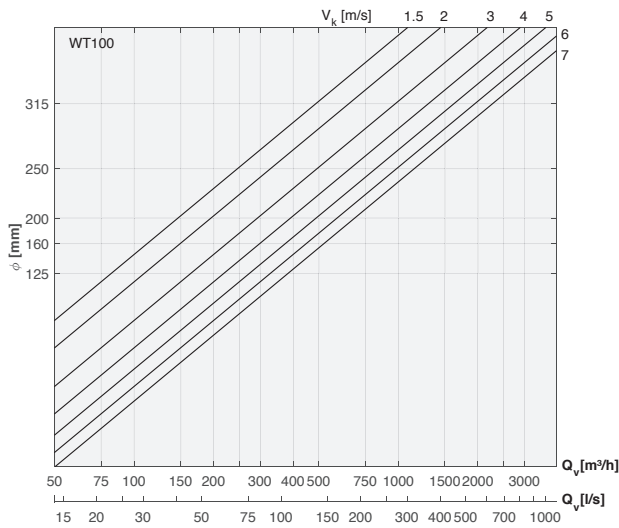
CRITICAL DISTANCE



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 VELOCITY



AIR DISCHARGE SURFACE AREA

	Ø [MM]				
	125	160	200	250	315
A_k [m ²]	0,152	0,0207	0,0271	0,456	0,0902

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, $L_{w,L}$ (= $L_p + \Delta L_r$)	[dB(A)]	38
proposal of size, \emptyset	[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 @ $\Delta T_0 = T_a - T_0$, x_{crit}	[m]	2,5
temperature coefficient @ $L_{T0,2,L}$, $\Delta T_x/\Delta T_0$	[-]	0,045
-->temperature $T_x = T_a - (\Delta T_x/\Delta T_0) (T_a - T_0)$	[°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 centre
x_{crit}	[m]	critical distance at which the jet detaches from the ceiling because of ΔT_0
\overline{z}	[%]	valve position (100% = open)