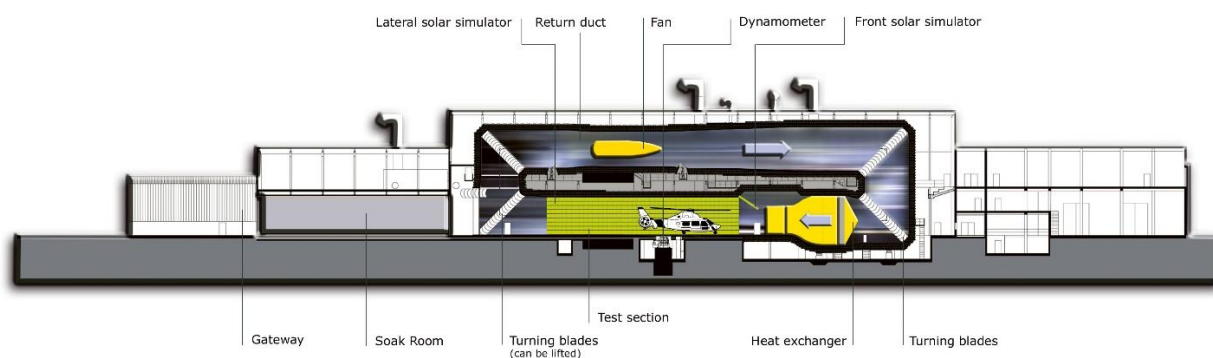
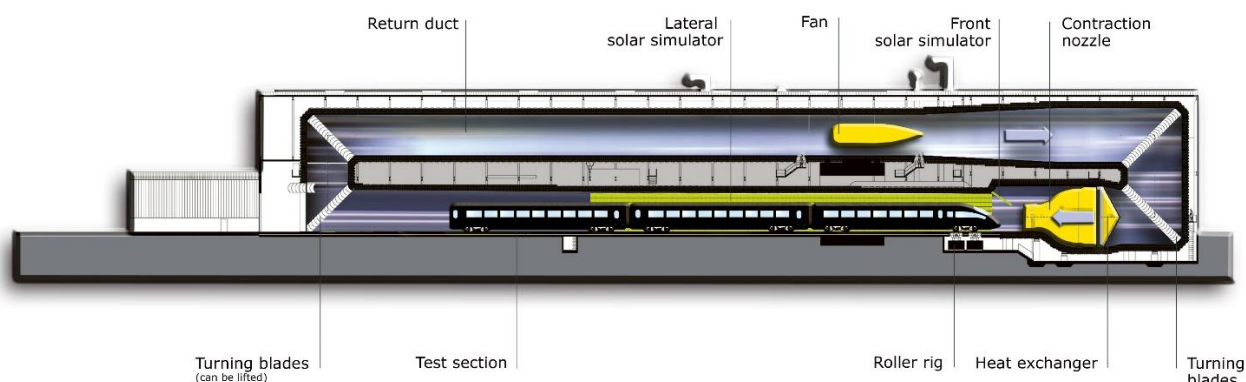


Technical Data

Small Climatic Wind Tunnel (small CWT)



Large Climatic Wind Tunnel (large CWT)



	small CWT	large CWT
Contraction nozzle dimensions width / height / area	3.5 m / 4.6 m / 16.1 m ²	
Contraction ratio of nozzle	3.98	5.72
Test section width height cross sectional area	4.9 m to 5.1 m 5.9 m to 6.0 m 27.2 m ² to 28.7 m ²	4.9 m to 5.6 m 5.9 m to 6.2 m 27.2 m ² to 32.2 m ²
Distance between nozzle and start of test section (also begin of lateral solar simulator)	3.5 m	
Test section length	33.8 m	100.0 m
Distance between nozzle and dynamometer / roller rig	16.0 m	7.5 m
Maximum dimension for entry	height = 5.9 m / width = 4.2 m	
Smallest ground clearance	40 mm	

	small CWT	large CWT
Dimensions of lateral solar simulator length / height	30.0 m / 4.3 m	60.0 m / 4.3 m
Maximum temperature range	-45°C to +60°C	
Maximum wind speed restrictions at low temperatures e.g. at -20°C	120 km/h	300 km/h
	120 km/h	200 km/h
Maximum temperature gradient in the temperature range -20°C to +60°C	10 K/h	
Relative humidity at temperatures > +10°C	10% to 98%	
Solar intensity of lateral solar simulator at fixed 30° angle of incidence operating temperature > -10°C	200 W/m ² to 1,000 W/m ²	
Solar intensity of front solar simulator maximum wind speed: at incidence angles < 45° up to 120 km/h at incidence angles >= 45° up to 50 km/h operating temperature > -10°C	200 W/m ² to 1,000 W/m ²	
Rain, snow and icing systems	stationary ceiling mounted rain and icing system spray rig covering entire tunnel cross section mobile (snow) nozzles	
Braking and load simulation	dynamometer with one driven axle	roller rig with one driven and one nondriven axle
Maximum power (Linear increasing until full power)	250 kW drive power (from 45+ km/h) 300 kW brake power (from 50+ km/h)	850 kW drive and brake power 1.5 MW overload for 90 s
Maximum speed	160 km/h	280 km/h
Load simulation	4,000 to 20,000 kg	Up to 20,000 kg
Maximum axle load	14,000 kg	20,000 kg
Roller diameter	1,591.5 mm	1,000 mm
Roller surface	tungsten carbide coated	-
Roller spacing	1,000 mm	-
Roller width	1,000 mm	track profile
Distance between axels, adjustable	-	1,100 mm to 3,000 mm
Gauge of track	-	1,435 mm
Maximum wheel Force	20,000N	-

Soak Room for pre-tests and alternating climate tests in combination with the small CWT.
(Temperature & humidity range depends on outside weather conditions)

	Soakroom
Dimensions length / width / height	30 m / 8 m / 6 m
Temperature range	+5°C to + 60°C
Relative humidity at temperatures > +10°C	10% to 98%

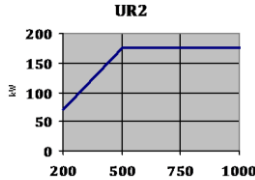
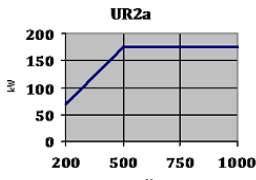
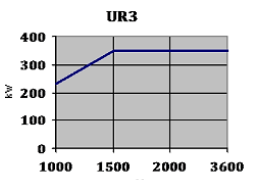
Preparation halls for setup and adjustment work

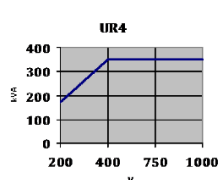
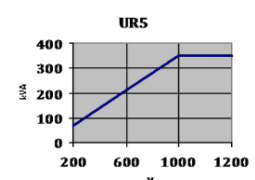
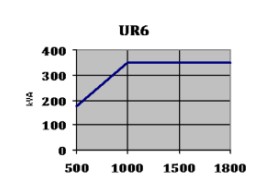
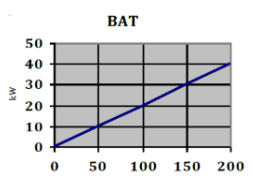
	Preparation hall 1	Preparation hall 2	Preparation hall 3
Dimensions length / width / height	100 m / 11 m / 8.5 m	60 m / 11 m / 7.5 m	64.5 m / 9.5 m / 5.6 m
Ground controlled gantry crane	5t / along entire hall length		3.2t / along entire hall length

Available exhaust systems

	Exhaust LWT	Exhaust SWT	Exhaust aviation
Flow rate	8,705 m ³ /h	7,067 m ³ /h	52,500 m ³ /h
Mass flow	3.13 kg/s	2.54 kg/s	18.8 kg/s
Note	Continuously adjustable	Continuously adjustable	Continuously adjustable, not possible to operate both tunnels at a time

Auxiliary and test voltages

	UR1	UR2	UR2a	UR3
U	400 V	200 - 1,000V	200 - 1,000V	1,000 – 3,600V
f	50 Hz	-	-	-
I _{max}	500 A	350 A	350 A	235 A
P _{max}	350 kVA	175 kW	175 kW	350 kW
AC / DC	AC	DC	DC	DC
Phasen	3	1	1	1
Performance Chart	Fixed Voltage			

	UR4	UR5	UR6	BAT
U	200 - 1,000V	200 – 1,200 V	500 – 1,800 V	0 – 200 V
f	40 – 60 Hz	16 2/3 Hz	40 – 60 Hz	-
I _{max}	500 A	350 A	350 A	200 A
P _{max}	350 kVA	350 kVA	350 kVA	40 kW
AC / DC	AC	AC	AC	DC
Phasen	3	1	1	1
Performance Chart				

Available accessories:

- Forklift (5 t)
- Shunting vehicle (Zagro) with the following couplings:
 - Towing hook
 - Towing rod / truck trailer hitch
 - Voith – Schaku Typ 10
- Work platform (6 m)
- Unloading track without ramp (smallest radius = 120 m)