

# **WATER TEST CHAMBER SPK R200 / R400 / R600 / R800**



## FULFILLED STANDARDS AND REGULATIONS - SPK SERIES

The iTS Water Test Chamber SPK series enables standard-compliant testing of "electrical equipment inside an enclosure" against effects of water ingress. The following standards and specifications for the area of "water testing" can be fulfilled. Special options are required depending on the test component or standard.

Standards	Standard	Optional	Option
<b>IEC 60529:1989 + A1:1999 + A2:2013</b>	x		
<b>ISO 20653</b>	x		
<b>EN 60068-2-18</b>	x		
<b>IEC 60598-1</b>	x		
<b>LV 124</b>	x		
<b>BMW GS 95003-4</b>	x		
<b>SAE J575</b>		x	SPK.OP-066 (12266) and others
<b>JIS D203</b>		x	SPK.OP-065 (11878) and others
<b>UL 50E / NEMA 250</b>		x	SPK.OP-032 (14712) and others

## STANDARD SCOPE OF DELIVERY - SPK SERIES

The IP X3/4 tests are integrated in the standard version of the water test chamber. All the test types listed below can be integrated into the water test chamber as an option. This can also be done retrospectively on a later date.

The following protection type tests can be carried out in the Water Test Chamber SPK:

Protection type code	Type of examination	Scope of delivery
<b>IP X1</b>	Drip water	Option
<b>IP X2</b>	Drip water below 15°	Option
<b>IP X3</b>	Spray water	Standard - swivel tube not included (see accessories)
<b>IP X4</b>	Splash water	Standard - swivel tube not included (see accessories)
<b>IP X4K</b>	Splash water with increased pressure	Option

## STANDARD SCOPE OF DELIVERY - SPK SERIES

Protection type code	Type of examination	Scope of delivery
<b>IP X5</b>	Water jets	Option
<b>IP X6</b>	Powerful water jets	Option
<b>IP X6K</b>	Water jets with increased pressure	Option
<b>IP X9K</b>	High pressure water test	Option
<b>JIS D203 R1/R2 and S1/S2</b>	Rain Test / Spray Test	Option
<b>NEMA 4X / UL50E</b>	Water jets / Rain test	Option / on request
<b>SAE 575</b>	Spray test	Option

### Standard version SPK

The Water Test Chamber SPK is a self-contained system and can be easily positioned in the test room using the castors. After connecting the system, reproducible tests can be carried out again and again. The equipment required for this is housed in the test chamber or in the add-on tunnel.

The SPK enables the testing of all common test standards in ONE chamber. The equipment for IPX3/4 tests is included in the standard version. The chamber can be customised thanks to its modular design. Additional options for further tests can always be added at a later date.

All parts that come into contact with water are protected against corrosion. A large test chamber door facilitates the insertion of the test material - this is designed with a glass pane in a steel frame for observing the test process.



*SPK R400 interior - standard version*

## STANDARD SCOPE OF DELIVERY - SPK SERIES

SPK - Series	R200	R400	R600	R800
<b>Internal test chamber W x D x H [mm]</b>	960 x 960 x 900	1180 x 1180 x 1500	1500 x 1500 x 1500	2000 x 2000 x 2000
<b>Door cut-out W x H [mm]</b>	800 x 750	800 x 750	940 x 980 (front) 800 x 750 (side)	940x1800 (front) 940x1800 (side)
<b>Number of doors with 1 windscreen wiper</b>	2 over corner: front + left	2 over corner: front + right	2 over corner: front + right	2 over corner: front + right
<b>Window size W x H [mm]</b>	630 x 690	630 x 690	890 x 840 630 x 690	630 x 690 630 x 690
<b>External width [mm]</b>	1200 (+ 2300 mm with add-on tunnel for IPX5/6)	1600 (+ 2300 mm with add-on tunnel for IPX5/6)	1970 (+ 2300 mm with add-on tunnel for IPX5/6)	2500 (+ 2300 mm with add-on tunnel for IPX5/6)
<b>External depth [mm]</b>	1000 (+ 500 mm with IPX9K)	1200 (+ 500 mm with IPX9K)	1700 (+ 500 mm with IPX9K)	2000
<b>External height [mm]</b>	2100	2100	2100	2600
<b>Turntable diameter [mm]</b>	300	300	300	300
<b>Max. Turntable load capacity [kg]</b>	20	50	50	50
<b>Test room lighting</b>	Yes / LED	Yes / LED	Yes / LED	Yes / LED
<b>Walk-on grate in the test room</b>	-	-	available	available
<b>Control panel position</b>	right	left	left	left
<b>Paintwork</b>	Cladding panels: RAL 7035-light grey			
<b>Stainless steel surfaces</b>	polished look			
<b>Weight [kg]</b>	500	570	650	730

- **Note on weight:** The weight refers to the standard version without additional attachments. Depending on the desired additional option, the weight may increase considerably due to the use of additional pumps, fixtures and, if necessary, add-on tunnels.

## GENERAL REQUIREMENTS ON-SITE - SPK SERIES

Climatic conditions	SPK series
Ambient temperature [°C]	10 - 30
Relative humidity max. [%] - non-condensing	70

Electrical supply	SPK series
Electrical supply	3 x 400 Volt /50Hz N/PE
Power consumption up to [kW]	Standard (for IPX3/4 and also X5/6): 6 With IPX6K: 9 With IPX9K: 22
Installed load max. [A]	32
Electrical connection via	Direct wiring / connection via CEE plug
Ethernet (optional)	RJ 45 socket

- **Note: If connected via a CEE socket, this must be protected by a separate residual current device (RCD) of TYPE B (AC/DC sensitive).**

Compressed air supply	SPK series
Compressed air [bar]	3-6 5-6 (with the IPX9K option)
Compressed air quality	ISO 8573-1:2010 [3:3:4]
Compressed air connection	Via quick-release coupling NW 7.2

- **Note: The adapter for the connection is included in the scope of delivery.**

## GENERAL REQUIREMENTS ON-SITE - SPK SERIES

Water supply	SPK series
Water quality	City water with a minimum conductivity of 30 $\mu\text{S}/\text{cm}$
Water filter (customer supplied) micronage [ $\mu\text{m}$ ]	100
Water pressure max. [bar]	3
Water connection to system	Via hose nozzle for hose 13 mm inside
Max. water hardness [dH]	6

- Note:** The test water should never exceed a water hardness of 6°dH, especially for the IPX9K option, as this will result in increased limescale formation during heating. This increased limescale precipitation leads to a significantly shorter service life of the high-pressure pump and the heating elements in the hot water tank. To increase the service life of the nozzles and pumps, we recommend the use of demineralised water or a softening system (see options).

Waste water connection	SPK series
Max. waste water temperature [°C]	20-30
Max. waste water temperature [°C] with IPX9K (option)	80-85
Interface	Hose nozzle NW 13

- Note:** The waste water is actively pumped (up to max. 1.3 m). Otherwise, the test chamber is emptied via a manual drain valve.

All connections are located at the rear of the splash water chamber.



*SPK R600 with connections in the lower area (here: network / supply line water / electricity / compressed air)*

## OVERVIEW: OPTIONS - SERIES SPK

Option number	Option	Checkbox	Only possible with another option
<b>SPK.OP-010 (11871)</b>	IPX1/IPX2 Dripping water box TG43	<input type="checkbox"/>	
<b>SPK.OP-011 (11872)</b>	IPX1/IPX2 Dripping water box TG64	<input type="checkbox"/>	
<b>SPK.OP-013 (11874)</b>	IPX1/IPX2 Dripping water box TG105	<input type="checkbox"/>	
<b>SPK.OP-014 (12576)</b>	IPX1/IPX2 Dripping water box TG1010	<input type="checkbox"/>	
<b>SPK.OP-012 (12323)</b>	Electronic flow meter for IPX1/X2	<input type="checkbox"/>	
<b>SPK.OP-015 (12283)</b>	Automatic tilt table for IPX2	<input type="checkbox"/>	
<b>SPK.OP-020 (11873)</b>	IPX4K Upgrade of the jet water	<input type="checkbox"/>	Water circulation (SPK.OP-070 )
<b>SPK.OP-021 (14260)</b>	Chamber without IPX3/X4 - retrofitable	<input type="checkbox"/>	
<b>SPK.OP-030 (11874)</b>	IPX5/IPX6 Jet water in additional tunnel	<input type="checkbox"/>	Water circulation (SPK.OP-070 )
<b>SPK.OP-031 (14705)</b>	IPX5/IPX6 Jet water in additional tunnel XL	<input type="checkbox"/>	Water circulation (SPK.OP-070 )
<b>SPK.OP-032 (14712)</b>	Extension UL 50 Hose Down and NEMA 250 - 4	<input type="checkbox"/>	IP X5/X6 Additional tunnel (SPK.OP-030/031) + Water circulation (SPK.OP-070)
<b>SPK.OP-040 (11875)</b>	IPX6K Water jets with increased pressure	<input type="checkbox"/>	IP X5/X6 Additional tunnel (SPK.OP-030/031) + Water circulation (SPK.OP-070)
<b>SPK.OP-050 (11876)</b>	IPX9K High-pressure water jet with swivel lance	<input type="checkbox"/>	Recommendation: Water softening unit (SPK.OP-700) + Steam suction (SPK.OP-080)
<b>SPK.OP-060 (11877)</b>	IPX9K High-pressure water jet with 4 fixed lances	<input type="checkbox"/>	Recommendation: Water softening unit (SPK.OP-700) + Steam suction (SPK.OP-080)
<b>SPK.OP-061 (12327)</b>	Spraying device for cold cleaner	<input type="checkbox"/>	
<b>SPK.OP-070 (11879)</b>	Water recirculation system	<input type="checkbox"/>	

## OVERVIEW: OPTIONS - SERIES SPK

Option number	Option	Checkbox	Only possible with another option
<b>SPK.OP-071 (11949)</b>	Water cooling unit for cold water tank	<input type="checkbox"/>	
<b>SPK.OP-072 (11950)</b>	Temperature sensor for cold water tank	<input type="checkbox"/>	
<b>SPK.OP-080 (11880)</b>	Steam suction	<input type="checkbox"/>	Recommendation for IPX9K equipment
<b>SPK.OP-065 (11878)</b>	JIS test according to S1/S2 and R1/R2	<input type="checkbox"/>	
<b>SPK.OP-066 (12266)</b>	SAE nozzle for the SAE 575 test	<input type="checkbox"/>	
<b>SPK.OP-067 (12278)</b>	Flange connection Swivel elbow actuator	<input type="checkbox"/>	
<b>SPK.OP-090 (11881)</b>	1-phase socket (in Water Test Chamber)	<input type="checkbox"/>	Power supply via transformer after agreement
<b>SPK.OP-120 (11884)</b>	Additional entry port 100 mm	<input type="checkbox"/>	
<b>SPK.OP-121 (11885)</b>	Additional entry port 150 mm	<input type="checkbox"/>	
<b>SPK.OP-122 (11886)</b>	Additional entry port 200 mm	<input type="checkbox"/>	
<b>SPK.OP-123 (11887)</b>	Additional entry port 250 mm	<input type="checkbox"/>	
<b>SPK.OP-200 (12284)</b>	Data recording incl. ITS Companion App - Basic	<input type="checkbox"/>	
<b>SPK.OP-210 (11894)</b>	Ethernet interface for data storing incl. ITS Companion App Pro	<input type="checkbox"/>	
<b>SPK.OP-212 (14755)</b>	iTS Companion App - Pro Plus	<input type="checkbox"/>	
<b>SPK.OP-220 (12291)</b>	Programmable digital channel	<input type="checkbox"/>	
<b>SPK.OP-224 (14756)</b>	Additional programmable digital channel (2nd/3rd/4th channel)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Digital Channel (SPK.OP-220)
<b>SPK.OP-225 (14757)</b>	Emergency stop switch-off of the water chamber from external	<input type="checkbox"/>	
<b>SPK.OP-226 (14758)</b>	Safety signal of the water chamber for on-site control room	<input type="checkbox"/>	
<b>SPK.OP-600 (12264)</b>	Flat spray nozzle DIN EN 60529 / ISO 20653	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<b>SPK.OP-601 (12263)</b>	Force measurement of a flat spray nozzle according to DIN EN 60529 / ISO 20653	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Flat spray nozzle (SPK.OP-600)



## OVERVIEW: OPTIONS - SERIES SPK

Option number	Option	Checkbox	Only possible with another option
<b>SPK.OP-700 (12273)</b>	Water softening unit	<input type="checkbox"/>	Recommendation for IPX9K equipment
<b>SPK.OP-132 (12274)</b>	DAkkS calibration flow rate IP X1/X2	<input type="checkbox"/>	
<b>SPK.OP-130 (11888)</b>	DAkkS calibration of sensors for IP X3/4	<input type="checkbox"/>	
<b>SPK.OP-140 (11889)</b>	DAkkS calibration of sensors for IP X5/6	<input type="checkbox"/>	
<b>SPK.OP-150 (11890)</b>	DAkkS calibration of sensors for IP X9K	<input type="checkbox"/>	
<b>SPK.OP-133 (12313)</b>	DAkkS calibration of temperature sensor for cold water tank	<input type="checkbox"/>	
<b>SPK.OP-162 (12499)</b>	Factory calibration flow rate IP X1/X2	<input type="checkbox"/>	
<b>SPK.OP-160 (11891)</b>	Factory calibration of the sensors for IP X3/4	<input type="checkbox"/>	
<b>SPK.OP-170 (11892)</b>	Factory calibration of the sensors for IP X5/6	<input type="checkbox"/>	
<b>SPK.OP-180 (11893)</b>	Factory calibration of the sensors for IP X9K	<input type="checkbox"/>	
<b>SPK.OP-163 (14759)</b>	Factory calibration of temperature sensor for cold water tank	<input type="checkbox"/>	

Accessory number	Accessories	Suitable for SPK	Checkbox
<b>SPK.ZB-010 (11896)</b>	Radius R200 swivel tube for IP X3/4	SPK 200 / SPK 400 / SPK 600 / SPK 800	<input type="checkbox"/>
<b>SPK.ZB-020 (11897)</b>	Radius R400 swivel tube for IP X3/4	SPK 400 / SPK 600 / SPK 800	<input type="checkbox"/>
<b>SPK.ZB-030 (11898)</b>	Radius R600 swivel tube for IP X3/4	SPK 600 / SPK 800	<input type="checkbox"/>
<b>SPK.ZB-040 (11899)</b>	Radius R800 swivel tube for IP X3/4	SPK 800	<input type="checkbox"/>
<b>SPK.ZB-050 (11900)</b>	Radius R200 swivel tube for IP X4K	SPK 200 / SPK 400 / SPK 600 / SPK 800	<input type="checkbox"/>
<b>SPK.ZB-060 (11901)</b>	Radius R400 swivel tube for IP X4K	SPK 400 / SPK 600 / SPK 800	<input type="checkbox"/>
<b>SPK.ZB-070 (11902)</b>	Radius R600 swivel tube for IP X4K	SPK 600 / SPK 800	<input type="checkbox"/>
<b>SPK.ZB-080 (11903)</b>	Radius R800 swivel tube for IP X4K	SPK 800	<input type="checkbox"/>

## REMARK

We reserve the right to make design and technical changes in the interests of further technical development.  
This applies to the entire technical description.

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