



sommer
MESSTECHNIK

**Flood
Measurement**
洪水測量

CHINA
EUROPE
Water Platform

Introduction Sommer 概况



sommer is a company based in **AUSTRIA** with more than 30 years of experience in development and production of high quality and innovative measurement equipment for hydrology and meteorology.

位于奥地利，具有30多年历史。自成立以来，一直为水文、气象行业提供高质量与创新性测量设备。

sommer is a family-owned business with a long tradition.

是家族自有企业，具有行业悠久与杰出的业务传统。

sommer headquarter is located in **Austria** with offices in **Europe** and **Asia**.

总部位于奥地利，在欧洲和亚洲有分支机构。

sommer realized in 10 years more than 4000 installations in china

在过去的10年中向中方提供了4000多套设备。



Water is the world's most precious resource

水是世界上最宝贵的资源

From data to knowledge

从数据到决策

Prediction of
water availability
水资源预测

Quantification of
water resources
水资源量化

Interpretation
of data
数据解读与理
解

Learn and act
应对



More than 70% of the Yellow river water is melt water
黄河70%以上的水来自于融雪。



Efficient flood management starts with understanding water measurement data
有效的洪水管理始于对测量数据的理解。

Key points: Water monitoring and data collection

要点:水的测量和数据收集

Value of monitoring data:

What is my goal of data collection? Who is interested in my data? Do I have existing data?

数据价值和分享:

数据采集目标?其它人对我得数据有兴趣吗?或者我是否可以使用已知数据?

Data quality is more important than data quantity:

Data are worthless if you cannot trust them!

数据质量比数据量更重要:

如果你不信任数据那有再多的数据也无用。

Knowledge of catchment area:

You must understand the water sources and which information is needed for your decisions

理解你的流域

你必须了解你所在流域水是从哪里来的, 并且你要明白你要做出正确决策需要哪些正确数据。

Only with correct and reliable data reasonable decisions can be made in time.

正确及时的决策仅仅建立在正确、可靠的数据基础上。



SOMMER Products



Non-contact discharge measurement (SQ-flowmeter) in a drainage and stormwater canal, Hong Kong
非接触式流量测量 (SQ流量计)，香港排水与暴雨工程涵洞



Non-contact discharge measurement (RQ-30) for the sponge city project, Beijing
非接触式流量测量 (RQ流量计)，北京海绵城市雨洪工程

Snow water equivalent
Onset of snow melt
Snow height
Snow temperature
Snow runoff



雪水当量
融雪
雪厚
积雪温度
融雪径流

Water level
Flow velocity
Water discharge (non-contact)
Water quality



水位
流速
流量 (非接触式)
水质

Rain
Snow fall
Hail
Evaporation



雨量
雪量
冰雹
蒸发

Data logger
Data transmitter (GSM/satellite/ radio)
Data hosting
Data analysis



数据采集器
数据传输
(全球通、卫星、电台)
数据云、
服务器的数据分析软件



Snowpack analyzer (SPA-2) in the Himalayas
堆雪分析仪 (SPA-2)，喜马拉雅山



Measuring water flow without touching the water (RQ-30) in Sichuan province
非接触式测流 (RQ-30)，四川

Sommer non-contact radar flowmeter

SOMMER 非接触式雷达流量计

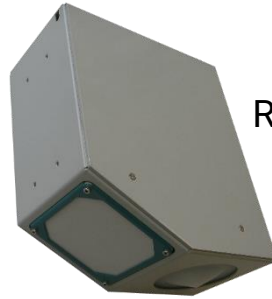
More than 4000
installations in
china
在中国4000多套
正常运行

Non-contact
sensor
maintenance free
非接触式传感器
无需维护

SQ-R



RQ-30



Used in more
than 110
countries
已在超过110个国
家使用

Highest reliability
and accuracy
精度高，可靠性
好

编号: TZBX20079

水利先进实用技术 推广证书

水利部南京水利水文自动化研究所、奥地利 SOMMER 环境监测技术公
司:

你单位固定式雷达波水位流量在线监测系统(技术)列入《2020年度水利先进实用技术重点推广指导目录》，认定为水利先进实用技术，特发此证。

自发证之日起，证书有效期三年。

(完成人: 陆云扬、马湛、李晨希、熊珊珊、刘晋、嵇海洋、董万钧、魏广、王少华、曹春燕、王亚娟、赵洪岩、郭丽丽、Michael Sommer、Christoph Sommer。)

二〇二〇年九月二十三日

Sommer non-contact radar flowmeter technology
Certified by the Swiss Federal Institute of Metrology
SOMMER 非接触式雷达水位流量在线监测技术获得水利部科技推广中心认证



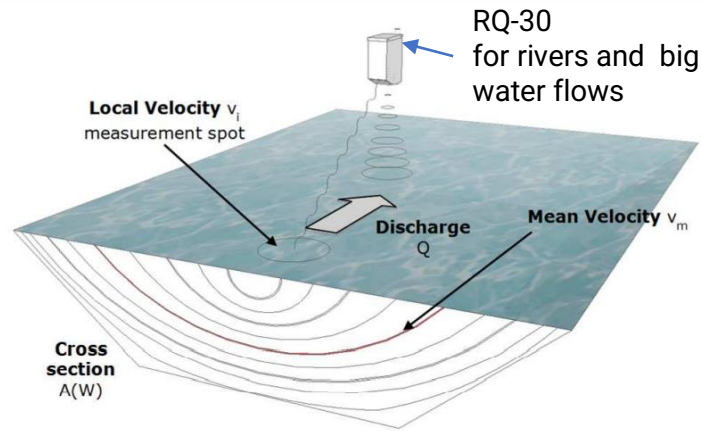
METAS
Swiss Federal Office
of Metrology certified



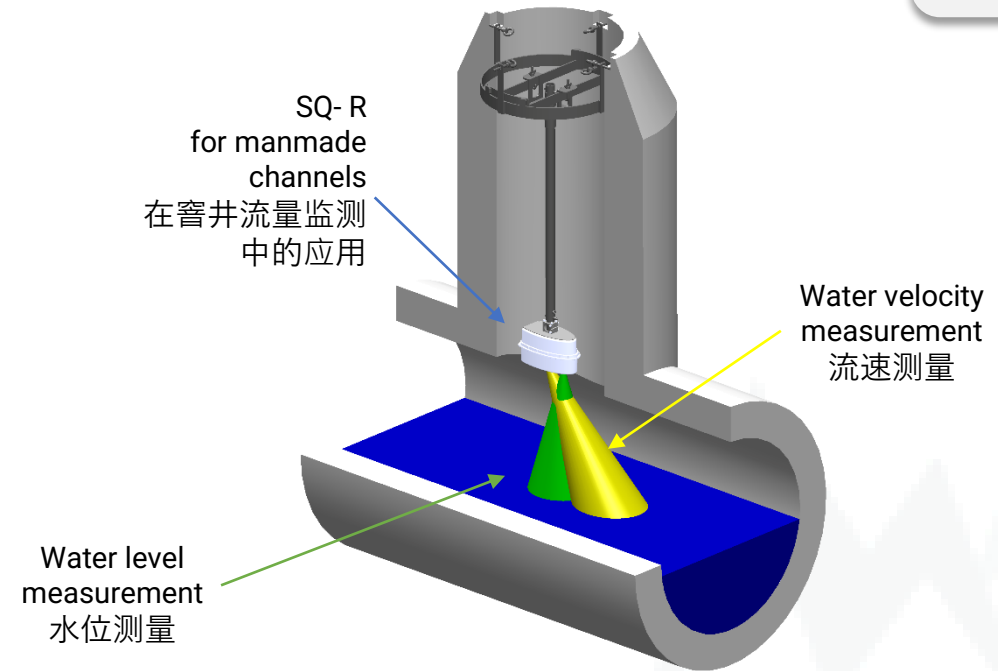
瑞士联邦计量研究院与瑞士联邦气象局双重认证

Sommer's advanced technology 技术优势

Sommer is the world's market leader for non-contact radar flowmeters:
是世界非接触式雷达流量计的领军企业



Relation between surface and mean velocity (k-factors)... is calculated dynamically with the SOMMER HYDRAULIC MODEL© for each water level taking channel shape and roughness into account.
其领先的数字水力学模型算法依据断面形状、糙率对每个水位级动态在线计算表面流速对断面平均流速关系系数K值。



The SOMMER HYDRAULIC MODEL© is unique and ensures highly accurate flow measurements of any river and open channel.
的水力学模型可对任何河流、明渠断面进行高精度流速分布模拟与流量计算，其独特算法确保流量计算结果的高精度。



National Severe Storms Lab

<https://www.nssl.noaa.gov/>

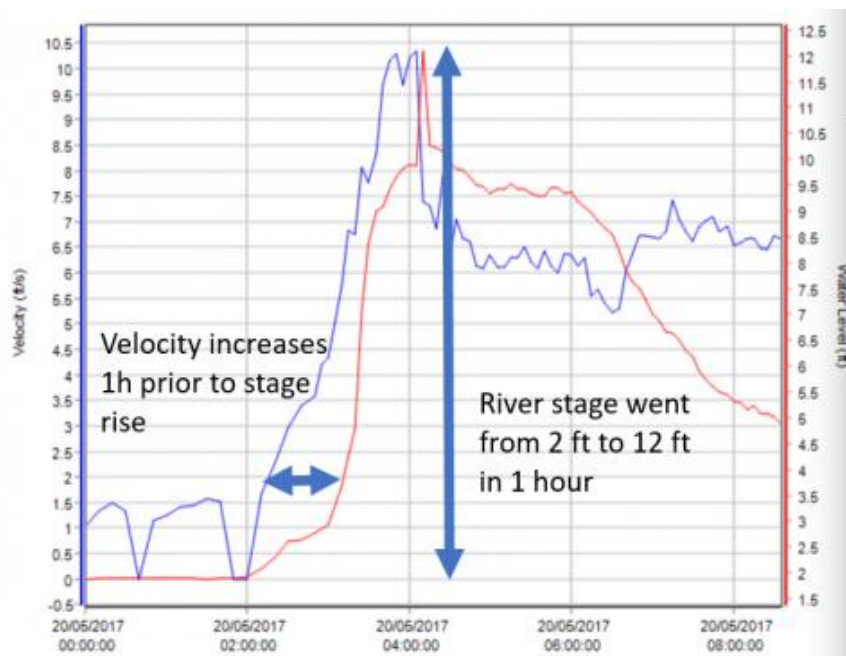


Click here to find out more:
更多信息请查询美国国家海洋和大气管理局国家极端风暴实验室网站

[NSSL project to utilize radar technology for flood warnings](#)

EXAMPLE: Falls Creek, USA

应用案例, 美国



Credit: <https://eos.org/editors-vox/in-pursuit-of-flash-flood-data>

Flash floods caused by heavy rain
暴雨引起突发性洪水

Earlier detection of flash floods due to radar velocity measurements
雷达测速技术确保对突发性洪水早期监测

Non-contact radar sensors are the future of the US hydrological monitoring services
非接触式雷达传感器可应用在美国未来水文测验业务中

EXAMPLE: Beijing smart / Sponge city project

应用案例，北京智慧水利与海绵工程

Storm water and
flood protection
暴雨性洪水与防
洪预警

Utilization of
storm water
城市雨洪优化利
用

Groundwater
recharge with
storm water
城市雨洪地下水
回灌

Ensure an intact
hydrological
cycle
水文循环优化调
度



Project by:



Ministry of Water Resources of
the People's Republic of China
中华人民共和国水利部



Why monitoring water flow with **SOMMER non-contact radar sensors?**

为何使用SOMMER的非接触式雷达传感器监测水位、流速、流量？



Information on exact water quantities for solid planning
可感知确切水量进行正确决策

Highest accuracy and reliability at low and high water flows
可在高中低水不同水位级上获得高精度、高可靠性流量数据

Unaffected by solids, waste, debris and turbidity
不受泥沙、污水、垃圾、浑浊水体影响

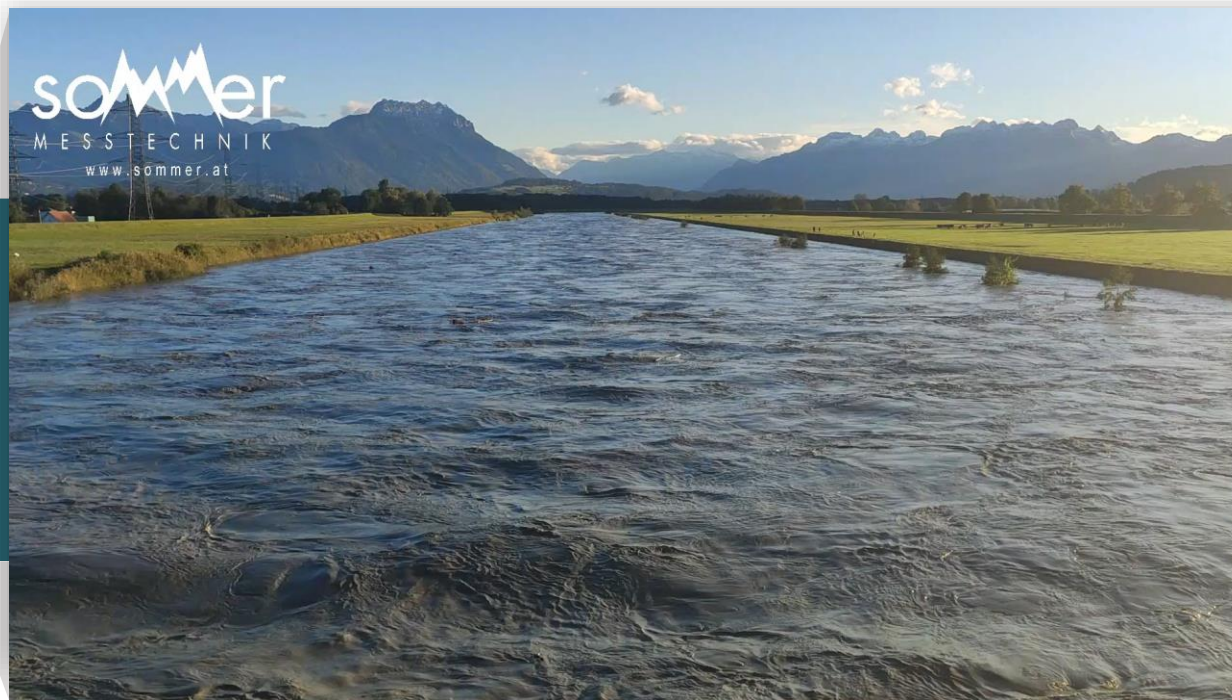
Easy connection to data loggers and data acquisition systems
与中方数传仪零难度对接实现在线数据采集与传输



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