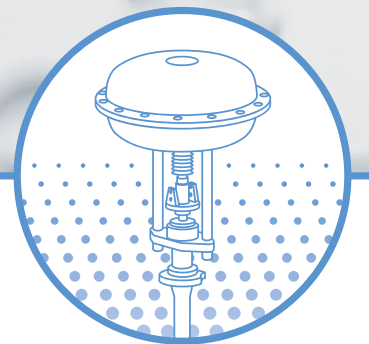




# H<sub>2</sub> AS ENERGY CARRIER



For more information visit  
**[www.weka-ag.ch](http://www.weka-ag.ch)**  
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**WEKA** FOR A SAFE  
AND RELIABLE ENERGY  
TRANSITION

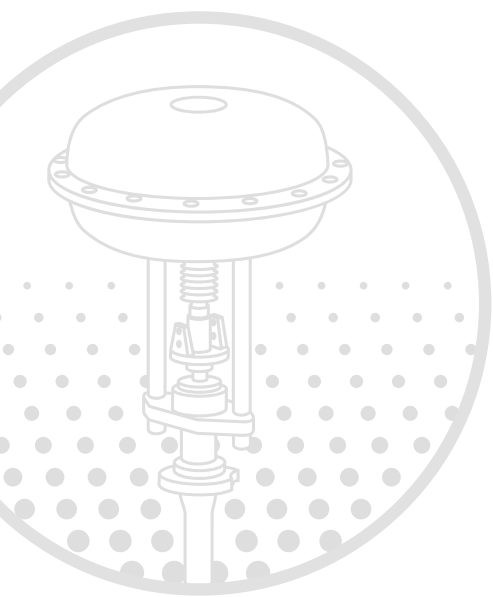
**VALVES AND CRYOGENIC  
COMPONENTS**

# HYDROGEN, THE ENERGY OF THE FUTURE!

## CHANGE IN THE ENERGY INDUSTRY

The switch to eco-friendly technologies is a urgent global need that is evident in all industries and also in everyday life. This also applies to hydrogen. We are currently witnessing a positive shift from traditional hydrogens to new emission-free green fuels.

With decades of experience in industrial gas and hydrogen applications, WEKA AG is well equipped to help you make the leap to hydrogen.



## OUR MISSION

Switzerland – the impressive beauty of nature. For us Swiss, it's not surprising that the environment also plays an essential role in our daily work. However, a look out of the window shows us that this has become an urgent need. Since the turn of the millenium, our glaciers have lost around 17 percent of their volume. The consequences of climate change are not only rapid and severe, they are also clearly visible in our country.

Hydrogen is thus not only another growth market for us, for us the energy transition is personal. That's why we at WEKA are doing everything we can to drive the energy of the future.

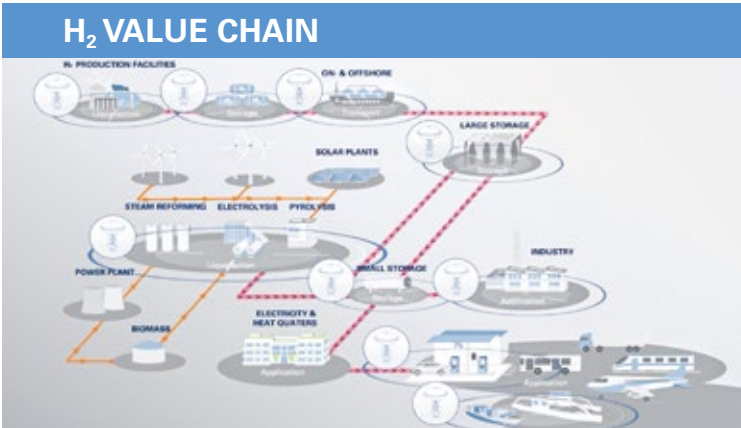
## WHAT WEKA STANDS FOR

- + proven supplier for cryogenic equipment since the 1970s
- + swiss quality
- + sustainability, ECOVADIS rating gold
- + QM system based on ISO9001
- + highest reliability and lowest maintenance
- + highest product safety in operation
- + flexibility to provide solutions outside standard setups
- + solutions for harsh environmental and service conditions

OUR EXPERTISE LIES IN THE DEVELOPMENT OF CUSTOMIZED COMPONENTS. WE DESIGN, PROTOTYPE AND MANUFACTURE VALVES AND CRYOGENIC COMPONENTS WITH SWISS PRECISION.

# WEKA IN THE H<sub>2</sub> VALUE CHAIN

Regardless of which part of the H<sub>2</sub> value chain you are in, the WEKA product range offers a solution that is ideally suited to your application. We supply reliable components for cold and hot applications and various pressure levels up to 1000 bar. Our concept offers a high degree of flexibility in producing a valve tailored to the requirements of your hydrogen application.



## TYPICAL APPLICATIONS

- + GH<sub>2</sub> liquefaction
- + LH<sub>2</sub> storage and withdrawal
- + LH<sub>2</sub> refueling
- + LH<sub>2</sub> transport by trailer or ship
- + GH<sub>2</sub> and LH<sub>2</sub> refueling station concepts
- + Fuel supply in space
- + Power-to-gas
- + Fuel cell and gas fuel systems for LH<sub>2</sub> for vehicles and ships

G = gaseous | L = liquid

## H<sub>2</sub> – RENEWABLE – ENERGY







INFRASTRUCTURE

# HYDROGEN INFRASTRUCTURE APPLICATIONS

## LIQUEFACTION

LH<sub>2</sub> / GH<sub>2</sub> control and shut-off valves, check valves and ejectors for liquefaction plants.

## STORAGE AND DISTRIBUTION

LH<sub>2</sub> / GH<sub>2</sub> control and shut-off valves, check valves and couplings for gas storage and distribution systems.

IDEAL FOR  
LIQUEFACTION  
STORAGE  
TRANSPORTATION  
FILLING

## LH<sub>2</sub> TRANSPORT

Shut-off valves for mobile tank trailers for H<sub>2</sub>-transportation

## FILLING STATIONS

High and low pressure control and shut-off valves for H<sub>2</sub> fuel station gas storage.



EJECTOR

BELLOW VALVE

HIGH PRESSURE VALVE

# HYDROGEN MARITIME APPLICATIONS

## ONBOARD HYDROGEN GAS SUPPLY

LH<sub>2</sub> / GH<sub>2</sub> control and shut-off valves, check valves for onboard liquefaction and storage. Type approval for various classification societies.

IDEAL FOR  
LIQUEFACTION  
STORAGE  
TRANSPORTATION

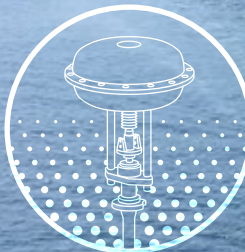


BELLOW VALVE

MULTILINE COUPLING

COLD CHECK VALVE

## ON- AND OFFSHORE







# HYDROGEN SPACE APPLICATIONS



HIGH PRESSURE  
VALVES



CUSTOMIZED  
CHECK VALVES



BELLOW VALVE

**IDEAL FOR**  
FUEL SUPPLY  
STORAGE  
DISTRIBUTION  
TEST BEDS

**LIQUEFACTION**  
LH<sub>2</sub> /GH<sub>2</sub> control and shut-off valves, check  
valves and ejectors for liquefaction plants.

**STORAGE AND DISTRIBUTION**  
LH<sub>2</sub> /GH<sub>2</sub> control and shut-off valves,  
check valves and couplings for gas storage  
and distribution systems.

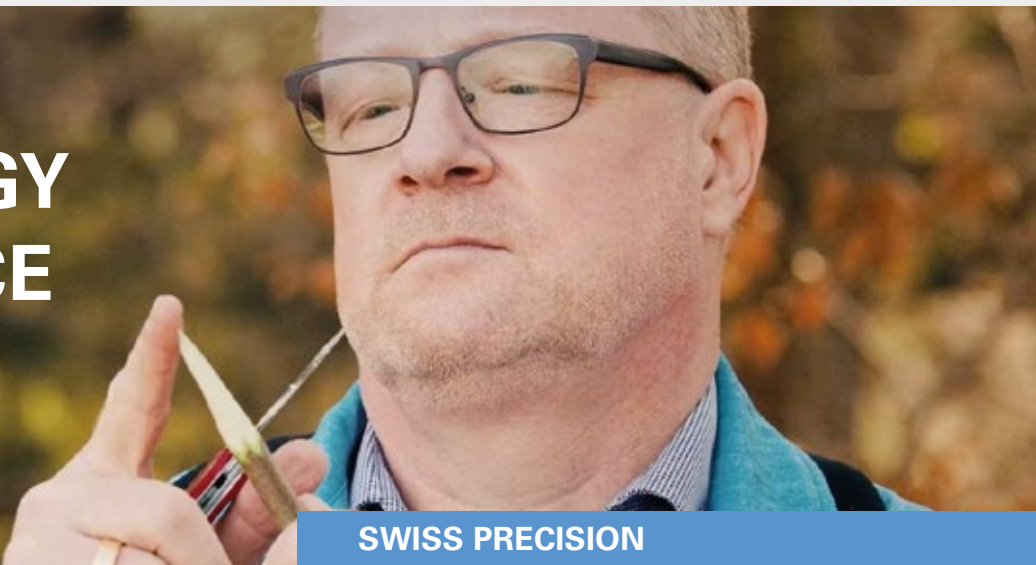
# HANDLING H<sub>2</sub> WITH SWISS PRECISION

To ensure that large-scale plants around the  
world function safely and smoothly, our  
employees take care of every last detail,  
pedantically, meticulously – typically Swiss.

Thus, we develop and produce components  
that make the handling of hydrogen safe  
and reliable. Our products meet all applicable  
standards and offer the corresponding certi-  
ficates:

- + IECEx approval
- + ATEX approval
- + SIL Certification
- + DNV, ClassNK, etc.

# WEKA TECHNOLOGY AT A GLANCE



SWISS PRECISION

**WEKA – YOUR FIRST CHOICE FOR**

- + cryogenic valves and components for service temperatures down to 1.8 K (-271 °C)
- + cryogenic control and shut-off valves, bellow sealed towards outer environment
- + sizes up to DN250
- + pressures up to PN 1000
- + Johnston couplings, multi coaxial couplings, warm and cold check valves
- + customer specific development according to requirements
- + cryogenic valves and components with marketspecific certifications

# WEKA SERVICE THAT SUITS YOU BEST

## ENGINEERING QUALITY

WEKA's engineers and designers develop valves and components for cryogenics and level measurement technology that meet the highest requirements. For this purpose, we use comprehensive training as well as modern working tools and draw on years of experience with a high practical relevance.

In addition, we use the WEKA project management system, which optimally supports both smaller customer orders and complex developments.



## ENGINEERING



## CUSTOMIZED DEVELOPMENT

One of our strengths is to develop individual solutions for specific customer requirements should there be no suitable product in our standard portfolio. Our customers appreciate a close cooperation to achieve an optimum result for their needs.

## THE 9 KEY PRINCIPLES FOR WEKA SERVICE

- + speed
- + know-how
- + efficiency
- + accuracy
- + flexibility
- + transparency
- + accessibility
- + personal responsibility
- + professionalism

« SCIENTISTS DREAM  
ABOUT DOING  
GREAT THINGS.  
ENGINEERS DO THEM. »

# SERVICE AND SUPPORT

Offering our customers all-round service is important to us. That is why our commitment goes far beyond the supply of our products. The know-how of our qualified engineers and technicians is available to our customers at all times.

## SERVICES OFFERED

- + product training
- + remote support
- + service assignment
- + on-site support during installation
- + troubleshooting
- + and / or commissioning of our products



ON-SITE SERVICE

On request and by arrangement, we can be on site, in urgent cases even at short notice. Our many years of experience enable us to solve most problems on location without having to dismantle the components. This guarantees a faster resumption of operations and saves our clients valuable time and money.

For new customers, we are also happy to provide commissioning instruction. This is a valuable preventative measure, as the technology can become very complex, especially in the field of cryogenic applications.

If you also want to rely on the know-how of our employees, please contact us. We look forward to provide you with an individual service package.





APPLICATIONS

CONVEY, REGULATE, SHUT  
OFF, CONTROL, MEASURE,  
DISPLAY – **WEKA SOLUTIONS**  
**MAKE IT POSSIBLE.**

WITH STANDARD AND  
CUSTOMIZED SOLUTIONS,  
THE WEKA TECHNOLOGY  
IS AT HOME IN MANY  
APPLICATION AREAS.

LIQUIDS  
AND  
GASES

For more than 80 years, our range of cryogenic components and magnetic level indicators have been improving the operations of many important applications in a wide variety of industries.

If your business is one of them, we look forward to hearing from you soon.

CHEMICAL,  
OIL AND GAS



CHEMICALS AND PHARMACEUTICALS



OIL AND GAS INDUSTRY/PETROCHEMICALS

INDUSTRY  
AND TRADE



EXPLOSION-PROOF PLANTS



MECHANICAL AND PLANT ENGINEERING

ENERGY, SPACE  
AND RESEARCH



HYDROGEN INFRASTRUCTURE



SPACE INFRASTRUCTURE



LIQUEFACTION OF GASES



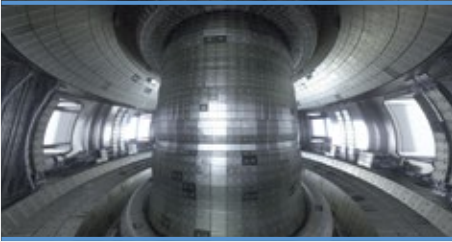
GAS RECIRCULATION SYSTEMS



WATER MANAGEMENT



SHIPBUILDING



PLASMA AND FUSION RESEARCH

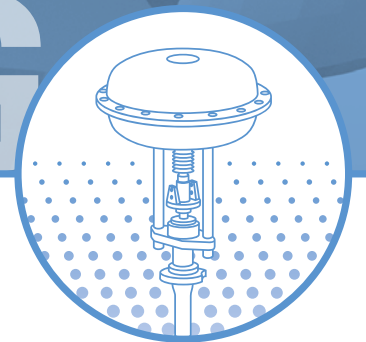


POWER GENERATION





# PRODUCT CATALOG




## WEKA HYDROGEN COMPONENTS




For more information visit  
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**VALVES AND CRYOGENIC  
COMPONENTS**

PRODUCT CATEGORY	CONTROL AND SHUT-OFF VALVES			
PRODUCT LINE	LOW PRESSURE CRYOGENIC VALVES			
PRODUCT TYPE	COLD (TxV)	WARM (WxV)	COLD (TxV)	WARM (WxV)
PRODUCT NAME	BELLOW VALVES	BELLOW VALVES	BELLOW VALVES	BELLOW VALVES
				
DESIGN TEMPERATURE @ PN	1 ... 323 K (-272 ... +50°C)	243 ... 323 K (-30 ... +50°C)	1 ... 338 K (-272 ... +65°C)	243 ... 338 K (-30 ... +65°C)
DN (NOMINAL DIAMETER) / PN (PRESSURE NOMINAL)	DN2 ... DN250 / PN6 DN2 ... DN150 / PN25 DN2 ... DN80 / PN40	DN2 ... DN250 / PN6 DN2 ... DN150 / PN25 DN2 ... DN80 / PN40	DN2 ... DN150 / PN80	DN2 ... DN150 / PN80
FULFILLED CERTIFICATIONS AND REGULATIONS:				
CE	X	X	X	X
ASME (not u-stamp)	X	X	X	X
KGS	X			
ATEX (for mech. / el. comp.)	X	X	X	X
IECEX (for mech. / el. comp.)	X	X	X	X
KC (for el. components)	X	X	X	X
JIS (for el. components)	X	X	X	X
CSA (for el. components)	X	X	X	X
FM (for el. components)	X	X	X	X
SIL	X	X		
Marine approval	X	X		

COUPLINGS				
SINGLE LINE		MULTI LINE		
VERTICAL INSTALLATION	HORIZONTAL INSTALLATION	2 FLUID LINES, 1 VACUUM INSULATION	2 FLUID LINES, 2 VACUUM INSULATIONS	EJECTORS
TLK-S	TLK-SH	TLK-MS	TLK-2MS	EJECTORS
				
DESIGN TEMPERATURE @ PN	1 ... 323 K (-272 ... +50°C)	1 ... 323 K (-272 ... +50°C)	1 ... 323 K (-272 ... +50°C)	1 ... 323 K (-272 ... +50°C)
DN6... DN80 / PN25	DN10... DN50 / PN25	DN5 / 11 / PN25 DN11 / 28 / PN25 DN15 / 28 / PN25	DN16 / 25-38 / PN25 DN21 / 32-44 / PN25 DN30 / 48-60 / PN25	PN25
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	

For more information visit [weka-ag.ch](http://weka-ag.ch)

# HYDROGEN COMPONENTS

PRODUCT CATEGORY	CHECK VALVES			
PRODUCT LINE	COLD CHECK VALVE			
PRODUCT TYPE	CCV	CCV-V	COLD + WARM	WARM
PRODUCT NAME	CCV	CCV-V (BYPASS BORE)	MPV	HPV
				
DESIGN TEMPERATURE @ PN	1 ... 323 K (-272 ... +50°C)	1 ... 323 K (-272 ... +50°C)	1 ... 323 K (-272 ... +50°C)	243 ... 323 K (-30 ... +50°C)
DN6...200 / PN25 DN6...200 / PN40	DN6, DN15, DN25 / PN280 DN6, DN15, DN25 / PN420	DN6...200 / PN25 DN6...200 / PN40	DN6, DN15, DN25 / PN640 (-30 °C...+50 °C)	
FULFILLED CERTIFICATIONS AND REGULATIONS:				
CE	X	X	X	X
ASME (not u-stamp)	X	X	X	X
KGS				
ATEX (for mech. / el. comp.)	X	X	X	X
IECEX (for mech. / el. comp.)				
KC (for el. components)			X	X
JIS (for el. components)			X	X
CSA (for el. components)			X	X
FM (for el. components)			X	X
SIL				
Marine approval	X			

CHECK VALVE		NEEDLE VALVES	
HPCV		COLD	WARM
HPV	HPV	CNV	NV
			
20 ... 323 K (-253 ... +50°C)	20 ... 323 K (-253 ... +50°C)	20 ... 323 K (-253 ... +50°C)	213 ... 323 K (-60 ... +50°C)
DN6 / PN1000	DN6 / PN640 DN15 / PN420	DN4...15 / PN110 DN4...15 / PN260 DN4...15 / PN420	DN4...15 / PN110 DN4...15 / PN260 DN4...15 / PN420
X	X	X	X
X	X	X	X
X	X	X	X
X			
X			
X			
X			