



## Corrosion and chemical resistant system solutions

#### Georg Fischer

Georg Fischer focuses on three core businesses: GF Piping Systems, GF Automotive and GF Machining Solutions. The industrial corporation, founded in 1802, headquarters in Switzerland and operates approximately 120 companies with more than 14,800 employees in 33 countries. GF Piping Systems is a leading supplier of plastic and metal piping systems with global market presence. We offer pipes, fittings, valves, automation products, jointing technology and corresponding services for the treatment of water and chemicals, as well as for the safe distribution of liquids and gases.

#### Our market segments

Being a strong implementation partner, GF Piping Systems supports its customers in every phase of the project. No matter which processes and applications are planned in the following market segments and sub-segments:

- Agriculture
- · Aquatics
- · Chemical Processing
- Energy
- · Food & Beverage / Cooling
- Industrial Water & Waste Treatment
- Marine
- Microelectronics
- Mining
- Municipal Water & Waste Treatment
- Plating

#### \* Global presence

Our global presence ensures customer proximity worldwide. Sales companies in 26 countries and representatives in another 80 countries provide customer service around the clock. With 32 production sites in Europe, Asia and the USA we are close to our customers and comply with local standards. A modern logistics concept with local distribution centers ensures highest product availability and short delivery times. GF Piping Systems' specialists are always close by.

#### \* Complete solutions provider

Our extensive product range represents a unique form of product and competence bundling. With over 70 000 products, allied with a broad range of services, we offer individual and comprehensive system solutions for a variety of industrial applications. Having the profitability of the projects of our customers in focus, we optimize processes and applications that are integrated into the whole system. Continually setting standards in the market, we directly provide our customers with technological advantages. Due to our worldwide network customers benefit directly from our 50 years+ experience in plastics.

From start to finish, we support our customers as a competent, reliable and experienced partner.

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#### **Automation**

# **Automation made easy**

Measurement, control and actuation. Measurement encompasses a wide range of measurement technologies and parameters. Most of these products are available in plastic and are offered with dedicated fittings, which integrate our sensors perfectly into your piping system. Control comprises various control functionalities (from simple relays to PID control) and all major communication technologies. Actuation includes pneumatic and electric actuators, which can be seamlessly combined with all kinds of valves and accessories.

# The all-in-one solution for your automation needs

#### Easy to combine

Flexible combination and upgrade

#### Easy to install

Seamless integration

#### Easy to connect

State-of-the-art communication technology

#### Easy to set-up

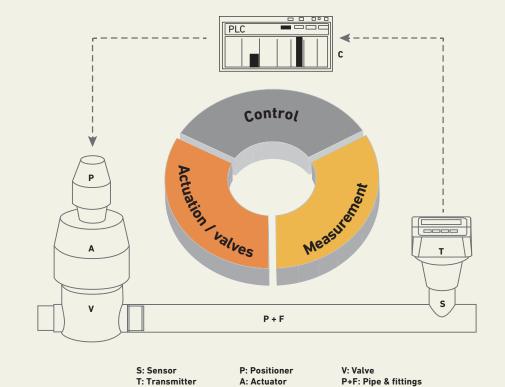
Plug-and-play design

#### Easy to operate

Intuitive menu structure

#### Easy to maintain

Wide range of accessories



#### Measurement



## Control



#### Actuation

C: Controller

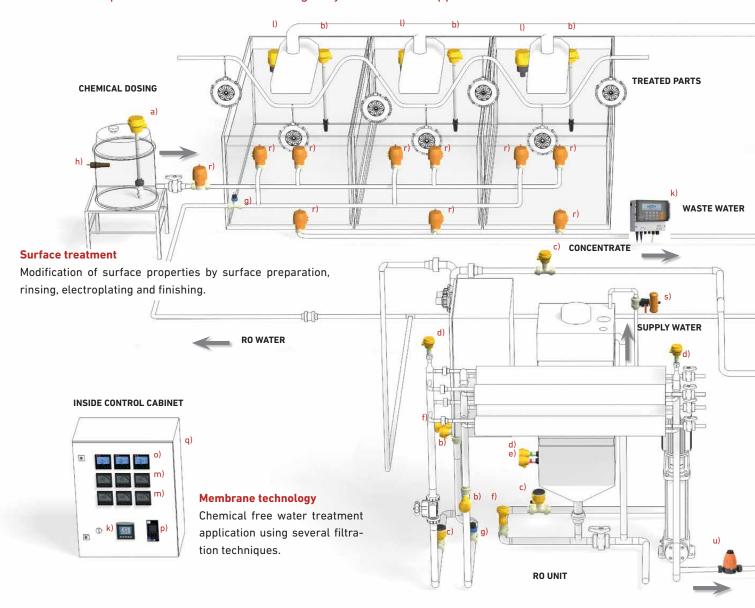


#### Valves



# Industrial automation made easy

We have a comprehensive automation offering for your industrial applications.



#### Measurement

- a) Level sensor type 2250
- b) Conductivity sensor using 2850 sensor electronics
- c) Electromagnetic flow sensor type 2551
- d) Pressure sensor type 2450
- e) Temperature sensor type 2350
- f) pH-sensor type 2724

- g) Paddlewheel flow sensor type 2536
- h) Limit switch
- i) pH/ORP Wet-tap unit type 3719
- j) Variable area flow meter type 335
- k) U3000/4000 ultrasonic flowmeter
- l) Ultrasonic level sensor type 2270

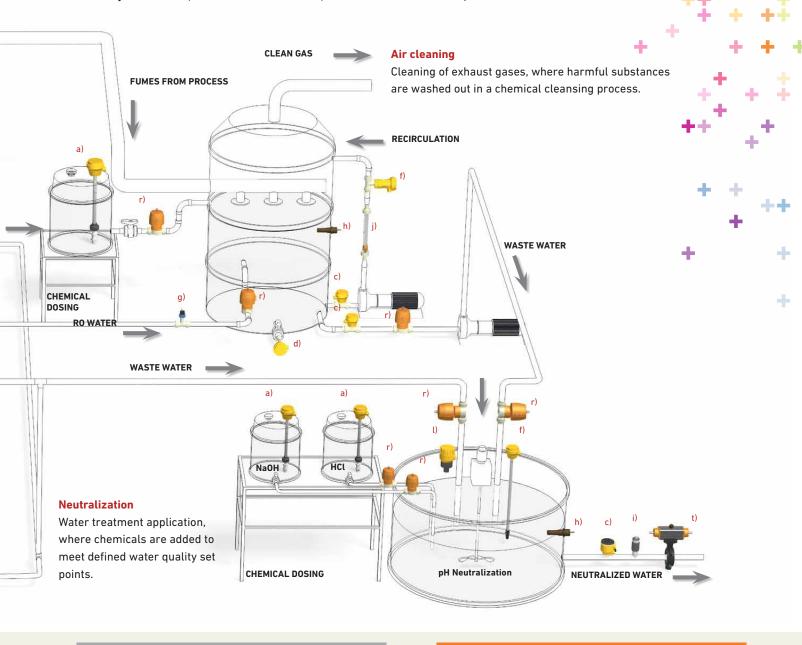
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#### Main benefits

Safety = Completely controlled and regulated processes

**Simplicity** = Easy to install, handle and operate

Efficiency = Economical and durable system solutions from a single source Economy = Optimized cost of ownership due to low-maintenance systems



#### Control

- m) Multi-parameter transmitter type 9900
- n) Customer PLC
- o) Dual channel transmitter type 9950
- p) PID controller
- q) Profibus concentrator

#### **Actuation / Valves**

- r) Diaphragm valve, pneumatic, type DIASTAR Ten
- s) Pneumatic ball valve type 230
- t) Pneumatic butterfly valve type 240
- u) Pressure retaining valve type 586

The rendering above shows an exemplary selection of industrial applications, where our automation offering can be used.



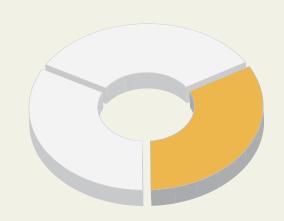
Accurate measurement is the basis for reliable process control



Our measurement offering will cover your needs: flow, pH, conductivity, level, temperature and various water quality parameters. Corresponding to our piping systems, most sensors are available in plastic and are therefore highly resistant to chemicals. Our plug-and-play measurement products are self-explanatory, easy to maintain and offered with suitable installation fittings.

# Measurement products

An overview of the key products



#### Paddlewheel flow sensor



#### Rotor-X paddlewheel low flow type 2536

- 0.3 to 20 ft/S (0.1 6 m/S)
- ½ to 36 in. (DN15-DN900)
- ½ to 4 in. (DN15-DN100) for PVC
- $\bullet$  PP 180 psi @ 38 °F (12.5 bar @ 20 °C)
- PVDF 203 psi @ 68 °F (14 bar @ 20 °C)
  PVC 203 psi @ 68 °F (14 bar @ 20 °C)
- 15 Hz per ft/S nominal
- (49 Hz per m/S nominal)



#### Paddlewheel flow sensor type 2537

- 0.3 to 20 ft/s (0.1 6 m/s)
- ½ to 8 in. (DN15-DN200)
- PP 181 psi @ 68 °F (12.5 bar @ 20 °C)
- PVDF 203 psi @ 68 °F (14 bar @ 20 °C)
- 4-20 mA, digital (S<sup>3</sup>L), flow switch or pulse outputs (based on part number)



#### Metalex paddlewheel flow sensor type 525

- 1.6-20 ft/s (0.5-6 m/s)
- ½-12 in. (DN15-DN300)
- 316 stainless steel
- 1500 psi @ safety factor 1.5 (103 bar) @ 300 °F (149 °C)



#### Rotor-X paddlewheel flow sensor type 515

- Non-powered
- 1 to 20 ft/s (0.3-6 m/s)
- 1/2 to 36 in. (DN15-DN900)
- PP 180 psi @ 68 °F (12.5 bar @ 20 °C)
- PVDF 203 psi @ 68 °F (14 bar @ 20 °C)
- Wet tap sensors available



#### Stainless steel paddlewheel flow sensor - type 2540

- 0.3 to 20 ft/s (0.1 6 m/s) • 1½ to 36 in. (DN40 - DN900)
- 316 stainless steel
- 250 psi @ 212 °F (17 bar @ 100 °C)
- 15 Hz per ft/s nominal (49 Hz per m/s nominal)
- · Open collector output



#### 2540 Hot-Tap

- 0.3 to 20 ft/s (0.1 6 m/s)
- 1½ to 36 in. (DN40-DN900)
- 316 stainless steel
- 250 psi @ 212 °F (17 bar @ 100 °C)
- 15 Hz per ft/s nominal (49 Hz per m/s nominal)
- Open collector output

#### **Magmeter**



#### Magmeter (blind or display) type 2551

- 0.15 to 33 ft/s (0.05 10 m/s)
- ½ to 36 in. (DN15-DN900)
- 150 psi @ 77 °F (10.3 bar @ 25 °C)
- 4 20 mA, or frequency/digital (S<sup>3</sup>L)
- Optional relay outputs



#### Metal magmeter type 2552

- 0.15 to 33 ft/s (0.05 10 m/s)
- 2 to 102 in. (DN50 DN2550)
- 316 stainless steel & PVDF
- 300 psi @ 77 °F (20.7 bar @ 25 °C) • 4-20 mA, frequency/digital (S<sup>3</sup>L)
- Hot-tap using ball or gate valves



#### Inline flow sensors



#### Turbine flow sensor type 2100

- 0.10 to 10 gpm (0.38 to 38 lpm)
- ½ in. (DN15)
- 232 psi @ 68 °F (16 bar @ 20 °C)
- · Open collector output
- Use with end fitting: 3-2100-31 to 3-2100-38



#### Mini-flow rotor sensor type 2507

- 0.1 to 3.2 U.S. gpm (400 12 000 mL/m)
- G ¼ in. ports, ¼ in. NPT pipe adapters
- PVDF
- 80 psi @ 75 °F (5.5 bar @ 24 °C)
- Open Collector output
- Standard cable 25 ft (7.6 m)



#### Micro-flow rotor sensor type 2000

- 0.03 3.2 gpm (0.11 12.11 lpm)
- 1/4 in. NPT or ISO 7/1-R1/4 threads
- Polyphenylene sulphide and PEEK
- 80 psi @ 32 °F to 176 °F (5.5 bar @ 0 ° to 80 °C)
- · Open collector output
- Standard cable 25 ft (7.6 m)

## Displays / transmitters



#### SmartPro transmitter type 9950

- One instrument for multiple sensor types
- Dual channel: two different sensor types can be combined in one instrument
- · Configurable display
- Derived measurements
- · Advanced boolean logic
- Optional modules can be added for additional capabilities
- USB Port for field upgrades using standard USB flash drive



#### SmartPro transmitter type 9900

- Multi-parameter input selection
- Large auto-sensing backlit display
- "Dial-type" digital bar graph • Optional field upgradable relays
- Selectable error mode for current outputs, 3.6 mA or 22 mA
- Optional relay, direct conductivity/
- resistivity, 4 to 20 mA output, Modbus, and HART modules are available
- NEMA 4X/IP65 front



#### Flow integral mount type 9900

- Local display for sensor mounted instruments
- Provides 4-20 mA output
- "At a glance" visibility
- · "Dial-type" digital bar graph
- NEMA 4X/IP65
- Plastic paddlewheel or plastic magmeter



#### Battery powered flow totalizer type 8150

- Displays GPS, GPM, GPH, GPD, LPS, LPM, LPH, LPD
- · Battery powered
- Single input
- · Panel or field mount
- 3 totalizers, auto calibration options
- Use with 515 or 525 flow sensors
- NEMA 4X/IP65



#### Variable area flow meters



#### Variable area flow meters type 335 / 350, SK50-73

- Taper tubes in PVC transparent, PA, PSU, PVDF
- Union connection with PVC (std)
- 3/8" 3 ½" (DN10 DN65) 150 psi (PN10)
- Optional switch feedback
- Special scales on request

## **Ultrasonic flow meters**



#### Portaflow portable ultrasonic flow meter - type 330 / 220

- 0.3 f/s-66f/s (0.1 m/s-20 m/s) ½"-78"(d13-d2000) Battery powered, AC 110-240 V
- Output: 0/4 to 20 mA, RS 232, USB, pulse
- Data logger (type 330)
- Transit time measurement



#### Ultraflow wall mount ultrasonic flow meter-type 3000 / 4000

- 0.3 f/s-66f/s (0.1 m/s-20 m/s)
   ½"-78"(d13 d2000)
   DC 24 V or AC 86-240 V
   Output 0/4 to 20 mA, RS 232, USB, pulse
   Data logger (type 4000)
   Transition
- Transit time measurement



#### Ultrasonic flow meter type U1000

- 0.3 f/s-33f/s (0.1 m/s-20 m/s)
- 1"-4" (d25-d115)
- DC 12-24 V
- Output: 4 20 mA, pulse or frequency
- Transit time measurement

# Easy to install

## pH/ORP sensors and instruments



#### SmartPro transmitter type 9950

- One instrument for multiple sensor types
- Two different sensor types can be combined in one instrument
- · Configurable display
- Derived measurements
- Advanced boolean logic
- Optional modules can be added for additional capabilities
- USB Port for field upgrades using standard USB flash drive



#### DryLoc pH/ORP electrodes for general purpose applications - type 2724-2726

- 0-14 pH, ± 2,000 mV ORP
- Ryton body, PE junction
- Use Signet Installation Fittings for in-line applications 0.5" – 4", or the 3%" M-NPT process connection
- Suitable for submersible applications
- DryLoc preamplifier connection with gold plated pins



#### Threaded dryLoc pH/ORP electrodes for harsh applications type 2774-2777

- 0-14 pH, ± 2,000 mV ORP
- Ryton body, PTFE junction
- Use sensor ¾"threads for mounting
- DryLoc preamplifier connection with gold plated pins
- Suitable for submersible applications
   Suitable for submersible applications
- For use with 2750/2760 preamplifiers



#### DryLoc pH/ORP smart sensor electronics type 2751

- 4 20 mA or digital (S³L)
  Probe health monitoring
- Memory chip interface
- In-line integral mount and submersible
- installation versions
- Auto configuration for pH or ORP
- pH buffer recognition for 4, 7 and 10 pH and ORP solutions



#### Wet-tap pH/ORP assembly type MK721

- For use with 2751
- 316 L Stainless Steel Wet-Tap pH or ORP Sensor Assembly with 1" SS ball valve
- Requires the 3-2722 to connect to pH/ ORP electronics.



#### SmartPro transmitter type 9900

- Multi-Parameter input selection
- Large auto-sensing backlit display
- "Dial-type" digital bar graph
- Optional field upgradable relays
- Selectable error mode for current outputs, 3.6 mA or 22 mA
- Optional relay, direct conductivity/ resistivity, 4 to 20 mA output, Modbus, and HART modules are available



#### DryLoc pH/ORP high performance electrodes – type 2734 - 2736

- Enhanced reference and bridge gels to resist chemical poisoning
- Ryton (PPS) body and PTFE junction for broad range of chemical compatibility
- PTFE reference junction resists fouling and chemical attack
- Use Signet Installation Fittings for in-line applications 0.5"-4", or the 3%" M-NPT process connection



#### Differential dryLoc pH/ORP electrodes for harsh applications - type 2764 - 2767

- 0-14 pH, ± 2,000 mV ORP
- Ryton body, PTFE junction
- Use sensor 1 inch threads for mounting
- DryLoc preamplifier connection with gold plated pins
- For use with 2750/2760 preamplifiers
- Suitable for submersible applications



#### pH/ORP wet-tap assembly - type 3719/ 2756, wet-tap electrodes type 2757

- Use a wet-tap style sensor for 0-14 pH, ± 2,000 mV ORP
- CPVC, PVC
- 1½ to 20"
- +  $1\,\%$  or 2 NPT, ISO 7/1 R1.5 or R2
- Electrode removal without process shutdown



#### Integral 9900 with pH

Local display for sensor mounted instruments

- Provides 4 20 mA output
- "At a glance" visibility
- "Dial-type" digital bar graph
- NEMA 4X/IP65



## Conductivity/resistivity sensors and instruments



#### SmartPro transmitter type 9950

- · One instrument for multiple sensor types
- Dual channel: Two different sensor types can be combined in one instrument
- Configurable display
- Derived measurements
- · Advanced boolean logic
- · Optional modules can be added for additional capabilities
- USB Port for field upgrades using standard USB flash drive



#### Conductivity/resistivity integral system with 9900 transmitter

- · Local display for sensor mounted instruments

- Provides 4-20 mA output
  "At a glance" visibility
  "Dial-type" digital bar graph
- NEMA 4X/IP65



#### Conductivity/resistivity electrodes type 2818 - 2823

- 0.055-400 000 μS (0.02-200 000 ppm) (18.2 M $\Omega$  - 1 K $\Omega$ )
  • 316 SS or titanium (hastelloy-C also
- available upon request)
- Reversible threads or sanitary flange connections
- Connect to 2850 sensor electronics



#### Conductivity/resistivity wet-tap

- 0.055 400 000 μS (0.02-200 000 ppm) (18.2 ΜΩ - 1 ΚΩ)
- 316 SS
- Valve Insertion Assembly
- Connect to 2850 sensor electronics



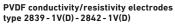
#### SmartPro transmitter type 9900

- Multi-parameter input selection
- · Large auto-sensing backlit display
- "Dial-type" digital bar graph
- Optional field upgradable relays
- Selectable error mode for current outputs, 3.6 mA or 22 mA
- Optional relay, direct conductivity/ resistivity, 4 to 20 mA output, Modbus, and HART modules are available



#### Conductivity sensor electronics with PVDF type 2850

- $0.055 400000 \mu S (0.02 200000 ppm)$ (18.2 MΩ - 1 KΩ)
- PBT (integral mount) /PBT/CPVC (universal J-box)
- · Integral systems connect to the 2839 series electrodes or 2819 series electrode via 3-286X universal j-box assembly
- 4-20 mA or digital (S<sup>3</sup>L)
- Factory NIST certified



- 0.055-200 000 μS (0.02-100 000 ppm) (18.2 MΩ - 1 KΩ)
- 316 SS and PVDF
- Dual threaded NPT
- Connection to 9900-1, 8900 instruments or 2850 sensor electronics
- NIST certificate



#### Universal in-line sensor adapter

Extended sensor insertion, use with:

- Conductivity
- Temperature
- Pressure

#### Temperature and pressure sensors and instruments



#### SmartPro transmitter type 9950

- One instrument for multiple sensor types
- · Two different sensor types can be combined in one instrument
- · Configurable display
- · Derived measurements
- · Advanced boolean logic
- · Optional modules can be added for additional capabilities
- · USB port for field upgrades using standard USB flash drive



#### Temperature integral system with 9900 transmitter

- · Local display for sensor mounted instruments
- Provides 4-20 mA output
- "At a glance" visibility "Dial-type" digital bar graph
- NEMA 4X/IP65



#### Pressure integral system with 9900 transmitter

- Utilizes the 2450 sensor for pressure or hydrostatic level measurement
- · Local display for sensor mounted instruments
- Provides 4 20 mA output
- "At a glance" visibility
- "Dial-type" digital bar graph
  NEMA 4X/IP65



#### SmartPro transmitter type 9900

- Multi-parameter input selection
- · Large auto-sensing backlit display
- "Dial-type" digital bar graph
- Optional field upgradable relays
- Selectable error mode for current outputs, 3.6 mA or 22 mA
- Optional relay, direct conductivity/ resistivity, 4 to 20 mA output, Modbus, and HART modules are available



#### Temperature sensor type 2350

- In-line mounting: 14°-212°F (10°C to 100°C)
- Submersible mounting: 14°-185°F (10 °C to 85 °C)
- PVDF
- ¾ inch dual threaded for in-line or submersible installation
- 4-20 mA or digital (S3L)



#### Pressure sensor type 2450

- 0-10 psig (0-0.7 bar)-U
- 0-50 psig (0-3.4 bar)-L
- 0 250 psig (0 17 bar) H
- Vacuum range available
- Wetted material: PVDF, ceramic and FKM
- ½" union dual threaded
- 4-20 mA or digital (S3L)

# evel sensors and transmitters SmartPro transmitter type 9950



- · One instrument for multiple sensor types
- · Two different sensor types can be combined in one instrument
- Configurable display
- Derived measurements
- Advanced boolean logic
- Optional modules can be added for additional capabilities
- USB port for field upgrades using standard USB flash drive

#### SmartPro transmitter type 9900

- Multi-parameter input selection
- · Large auto-sensing backlit display
- "Dial-type" digital bar graph
- Optional field upgradable relays
- Selectable error mode for current outputs, 3.6 mA or 22 mA
- Optional relay, direct conductivity/ resistivity, 4 to 20 mA output, Modbus, and HART modules are available



#### Non-contacting radar level transmitter type 2290

- · Non-contacting
- · Robust against most interfering factors such as fumes, light foaming or
- fluctuations of pressure or temperature Display and comprehensive
- configuration menu PP, PTFE or steel antenna enclosures
- 0.65 59 ft (0.2 m 18 m) (depending on εr of the process liquid)



#### Guided radar level transmitter type 2291

- · Reliable guidance of measuring signal along probe
- Advanced resilience in case of extreme fumes, thick foam layers or agitation
- Great performance also on media of low dielectric constants
- · Special coatings for probes available: PP, PFA and FEP



#### Ultrasonic integral level transmitter type 2260

- · Non-contact principle
- Narrow 5 and 6 ° beam
- Range: 13, 20, 50 ft (4, 6, 15 meters)
- 4-20 mA, HART, relay output
- PP and PVDF bodies
- ATEX versions
- · Quick-set and advanced menu
- Large multi-parameter display
- Allows for open channel measurement



#### Hydrostatic level sensor type 2250

- 0-10 psi = 0-7.03 m = 0-23.06 ft
- 0-50 psi = 0-35.15 m = 0-115.32 ft
- · Wetted material: PVDF, PVC, ceramic and FKM
- · Submersible sensor
- 4-20 mA or digital (S3L)
- · Uses hydrostatic pressure for level and depth control



#### Ultrasonic level sensor type 2270

- Non-contact principle
- Narrow 5 and 6° beam
- Range: 13, 20 ft (4, 6, meters)
- 4-20 mA, HART
- PP and PVDF bodies
- Easy to use EView programming software
- · Allows for open channel measurement

#### i-Go signal converter type 8058

- · Single input converter; 4 to 20 mA output converted to a digital (S3L) output
- For use with 9900 or 9950
- Free of charge when purchased with 9900 or 9950 and ultrasonic or radar level sensor



#### **Point level switches**



#### Vibration forks type 2280

- For safe operation in critical applications
- Cable, DIN connector and connection terminals
- · Easy wiring in various applications
- No moving parts
- No maintenance costs
- 1" Process connection



#### Conductive multipoint switch type 2281

- · Individual cutting of electrodes
- Most economic solution to indicate multiple point levels
- Easy adaptation of switching points on site
- Up to 4 switching points in one sensor
- 4 times faster installation: Cost effective solution
- Electrode length 20" up to 60"; 108"optional



#### Float switch type 2285

- Double chambered enclosure
- Easiest way to monitor point levels in open tanks and basins
- High operational safety
- Mercury free switching contact



# 700

#### Ultrasonic gap switch type 2284

- PPS full-plastic body
- Reliable point level detection even in very corrosive or viscous liquids
- · Optimized chemical compatibility
- Compact size
- Easy installation in pipes and small systems
- 3/4" and 1" Process connection

#### Guided float switch type 2282

- For high or low level
- PP or PVDF full-plastic body
- Compact and cost attractive solution for small vessels
- · Optimized chemical compatibility
- Ultra compact housing
- Easy installation in compact systems

#### Water analysis



#### Chlorine analyzer system type 4630

- Ranges: 0.02–2 ppm, 0.05–5 ppm, 0.1–20 ppm
- Continuous free chlorine measurement without chemical reagents
- Optional pH sensor for increased accuracy
- Pre-wired panel for easy installation
- Built in pressure regulator and variable area flow meter
- EPA 334.0 compliant



#### Turbidimeter type 4150

- Complies with U.S. EPA 180.1 or ISO7027
- Two adjustable alarm relays
- Built-in pressure regulator
- Easy access for wiring and maintenance
- Optional ultrasonic auto cleaning for reduced maintenance



#### Process optical dissolved oxygen sensor type 2610

- StL for use with 9900 or 9950
- Optical DO measurement with no flow requirements
- No membranes or filling solutions
- Flexible communications,
   4 to 20 mA or modbus 3-2610-41
- Measurement range: 0-20 mg/L, 0-200 % saturation



#### Chlorine dioxide system type 4632

- Complete turnkey system no additional parts required to install
- Now available with a flow switch interrupt (chlorine and chlorine dioxide)
- Complies with EPA standard 334.0
  Chemical free measuring system –
- Chemical free measuring system 0.02 2 ppm
- Optional pH measurement

# Easy to monitor

# Easy to operate

#### Accessories



#### Switching power supplies type 7310

- Universal AC input/full range
- Protections: short circuit/overload/ over-voltage
- Cooling by free air convection
- $\bullet$  Install on DIN rail TS-35/7.5 or 15
- Built in DC OK active signal
- · LED indicator for power on



#### i-GO signal converter type 8058

- Connects third party 4 20 mA signals to the 8900 and 9900
- Available for single or dual 4-20 mA sensor inputs
- Compatible with 8900, 9900



#### 8059 external relay module

- · AC and DC powered versions
- External relays controlled by host instrument
- Digital pass-through (DC versions) to simplify wiring
- Relay can be tested locally, and also via the host instrument
- Only compatible with 8900



#### HART -**USB** modem

- · HART to USB converter
- Portable or DIN rail version
- ATEX
- For use with 2260,2270,2290,2291 level transmitters



#### pH/ORP system tester type 2759

- Battery powered
- Simulates pH and ORP
- Compatible with 2750/2751 and 2760
- Connects to any pH/ORP instrument



#### Configuration tool type 0252

- · Back up and restore SmartPro transmitters and blind sensors
- · configurations to a computer file
- User-friendly interface
- · Configure settings such as instrument type, units, scale 4 to 20 current loops and modify labels from the computer

  • Use a single file to clone multiple
- SmartPro transmitters and blind sensors: 9900, 9950, 2250, 2350, 2450, 2551, 2552, 2751



#### NIST Conductivity/resistivity tools type 2850 - 101 - X

- Available values: 1.0 uS, 2.5 uS, 10.0 uS, 10 Meg Ohm, and 18.2 Meg Ohm
- · Verifies electronic independent of electrode
- Compatible with all conductivity and resistivity instruments
- Temperature compensated to 25 °C



#### 9900 pH/ORP Calibrator

- Battery operated for portability
- · Large auto-sensing backlit display
- "Dial-type" digital bar graph
- 2751 Smart Sensor included
- · Electrode not included



#### Flow wet-tap valve type 3519

- ½ to 36 in. (DN15-DN900)
- PVC
- 100 psi max @ 68 °F (7 bar @ 20 °C)
- · Use with wet-tap paddlewheel flow sensors type 515 and 2536



#### DPD kit

- EPA approved method to test Free Chlorine
- · Used for initial startup and calibration of the 3-463X chlorine panels
- Use after maintenance/service of the 3-263X series Free Chlorine sensors

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#### **Buffer solutions** type pH/ORP

- NIST Traceable
- Easily identifiable color coded buffer solutions
- Liquid or powder versions
- Temperature compensated values
- · Kits for easy use



#### Calibration kits for turbidimeter type 4150

- · Stable pre-mixed standards that are certified accurate
- Sealed calibration cuvettes
- Shelf-life 12 months
- Easy to follow instructions
- · Kits for easy use



#### 4-20 mA sensor GK 15 for VAFM type 335/350

- 12-24 V DC
- IP 65
- 4-20 mA (3 wire)



#### Signet enclosures

- For 9900 or 9950
- Standard part numbers
- NEMA 4X
- Stainless hinges and latches
- Pad-lockable latch
- Pre-wired between display and DIN rail terminals
- Universal input 100-240 VAC
- 8 ft, 120 VAC power cord
- DIN rail terminal block for easy
- termination of field wires
- Pre-drilled conduit holes equipped with liquid-tight cord grips



#### Wall mount accessory kit

- · Compact enclosure that works with instruments
- Equipped with a ¼ DIN cutout and two ½" holes at the base
- · Mounting hardware and liquid tight connectors are included



#### Limit contacts GK 10/GK11 for type 335/350 and short version

- · Reed contact
- IP65
- 230 V



#### Rear enclosure kits for 9900

- Compatible with all existing 9900-1P transmitters
- NEMA TYPE 4X/IP66 rated for indoor or outdoor installations
- Spacious for any 9900 transmitter accessory module
- · Hinged cover design for easy to access wiring
- Hinged cover suitable for wall mount or pipe mount installations



#### Signet enclosures

- For 8900
- · Standard part numbers NEMA 4X
- Stainless hinges and latches
- Pad-lockable latch
- Pre-wired between display and DIN rail terminals
- Universal input 100-240 VAC8 ft, 120 VAC power cord
- DIN rail terminal block for easy termination of field wires
- Pre-drilled conduit holes equipped with liquid-tight cord grips
- Custom configurations on request

# Easy to connect

#### **Installation fitting tees**



#### Plastic metric tees

• ABS\* DN20-DN50
• PVC DN15-DN50
• PP DN15-DN50
• PVDF DN15-DN50
• PE DN15-DN50



#### Plastic fiberglass tees

Fiberglass 1.5 - 2.0"/SCH 80
Special order ½ saddles available up to 12 inch/DN 300



#### Plastic -PVC tees

PVC 0.50 - 2.0" / SCH 80
 CPVC 0.50 - 2.0" / SCH 80
 PVC BSP\* 0.50 - 2.0"
 Fiberglass 1.50 - 2.0" / SCH 80



#### Metal tees

• Carbon steel NPT 0.50 - 2.0" / SCH 40 • Copper sweat-on 0.50 - 2.0" / SCH K • Galvanized iron NPT 1.00 - 2.0" / SCH 40



#### Metal tees

- 316 SS NPT 0.50 2.00"/SCH 40
- Brass NPT 1.00 2.00"/SCH 40

 $^{\star}$  BSP and ABS fittings are available through your local GF sales company. NOTE: Other sizes and materials available as Specials up to 36  $^{\circ}$ 

#### Weldolets / brazolets



#### Weldolets / brazolets

• Carbon steel 2.5 - 12.0"/SCH 40 • Brass 2.5 - 12.0"/SCH 40 • 316 SS 2.5 - 12.0"/SCH 40

#### **Metalex**



#### Metalex

• SS socket 0.50-1.00" • SS weld-on 1.25-12"



#### Metalex weld-on mini-tap

• 1.25 - 12"



# **Wafer fittings**



#### Wafer

• PP DN65-DN300 (2.5 - 4.0") DN65 - DN200 (3.0")

• PVDF

# **Saddles**



# Electrofusion transition

• PE 2.0 - 12.0"



#### Clamp-on

• PVC 2.0-8.0"/SCH 80 metric DN65-DN200 3"-6" • PVC • BSP



#### PVC Glue-on

• PVC 10"-12"/SCH 80

• Special order up to 20 inch



#### Strap-on

• Iron 2.0 - 12.0"/SCH 80

• Schedule 80 available up to 48 inches/DN 1200

 Sch 52 ductile iron saddle available by special request

# Control

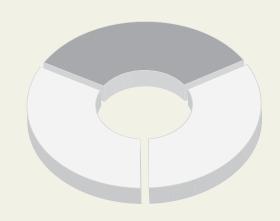
Precise control throughout your automation loop

Clever design makes life easy. All our measurement parameters can be connected with one and the same transmitter, a true multi-parameter controller. Additional functionalities like batch control or communication technologies can be added anytime because of the modular design. Our control products are simple to operate, have intuitive menu structures and can be upgraded modularly.



# **Control products**

An overview of the key products



#### **Multi-parameter instruments**



#### SmartPro transmitter type 9900

- Multi-parameter input selection
- · Large auto-sensing backlit display
- · "Dial-type" digital bar graph
- · Optional field upgradable relays
- Selectable error mode for current outputs, 3.6 mA or 22 mA
- · Optional relay, direct conductivity/ resistivity, 4 to 20 mA output, Modbus, and HART modules are available



Modules

#### Dual channel transmitter type 9950

- Independent dual channel multiparameter, flow, pH, ORP, conductivity, resistivity, pressure, temperature, level, volume, salinity, dissolved oxygen, other (4 to 20 mA)
- 2 Passive 4 to 20 mA loop outputs standard
- · Options for up to 4 relays dry contact or solid state
- · Derived functions: ratio, difference, sum, % rejection, % recovery



#### Modules type 9900

- · 2 mechanical relays module
- Direct conductivity module
- · HART communication module
- Batch module
- · Additional 4 to 20 mA output module



#### Modbus modules type 9900

- · Connect to PLCs and SCADA systems
- · Live readings
- · Primary and secondary readings
- · Units of measure for each reading
- Sensor status
- · Good reading, missing sensor, missing probe, wrong sensor



#### Multi-parameter/multi-channel controller type 8900

- AC or DC power option
- Up to 6 sensor inputs (2 frequency inputs max)
- Up to 4 20mA outputs
- Up to 8 relays
- Use with all digital (S<sup>3</sup>L) sensors



#### 0486 Profibus Concentrator

- Interface Signet products to a PROFIBUS network with a single service
- Four channels support (S<sup>3</sup>L) or flow frequency devices
- Two channels support (S³L) or 4 to 20 mA current loops
- Support for PROFIBUS DP V1 and DP V0
- · Convenient DIN Rail or surface mountable enclosure



#### Modules type 9950

- · 4 mechanical relays module
- 2 mechanical relays and 2 solid state relays module
- 2 mechanical relays with 4 binary input modules



#### PID controller type 3216

- · Easy set-up
- · Auto-tune
- 24 V or 100 230 V
- · External set-point
- Manual override via push button
- · Compact design
- 4-20 mA input/output
- 1/16 DIN
- NEMA 4/IP65 front



#### 8059 external relay module

- · AC and DC powered versions
- · External relays controlled by host instrument
- Digital pass-through (DC versions) to simplify wiring
- Relay can be tested locally, and also via the host instrument
- Only compatible with 8900



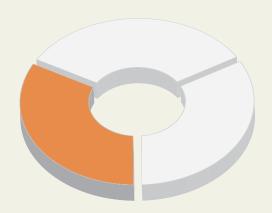


Reliable actuation with configuration flexibility

With our modular set-up, valves and actuators can be combined flexibly and additional functionalities, like positioners or monitoring devices, can be added optionally. Naturally, we offer the whole range in all-plastic designs, which are capable of withstanding harsh environments. A wide range of pressure regulating valves and accessories complete our actuation portfolio.

# **Actuation products**

An overview of the key products



#### **Actuators**



#### General purpose electric actuators Type EA15

- Glass-filled PP housing
- 100-230 V AC, 24 V AC/DC
- Output torque of 20 NM
- Highly visible LED position indication
- Standard: two position end stops and feedback, heater and manual override
- Optional: Integrated fail-safe return unit



#### Thermoplastic pneumatic actuators Type PA11/PA21

- FC FO DA
- Rack and pinion principle
- Accessory interface acc. ISO5211
- Visual position indication
- Glass-filled PP housing



#### Industrial process electric actuators Type EA25, EA45, EA120, EA250

- Glass-filled PP housing
- 100-230 V AC, 24 V AC/DC
- Output torque from 20-250 NM
- Highly visible LED position indication
- Standard: three position end stops and feedback, heater and manual override
- Optional: Integrated fail-safe return units, positioner, actuator monitor board, profibus DP V0



#### Metallic pneumatic actuators Type PA30 - PA90

- FC FO DA
- Scotch Yoke principle
- Visual position indication
- Adjustable end stops
- Various coatings on request

#### **Actuated butterfly valves**



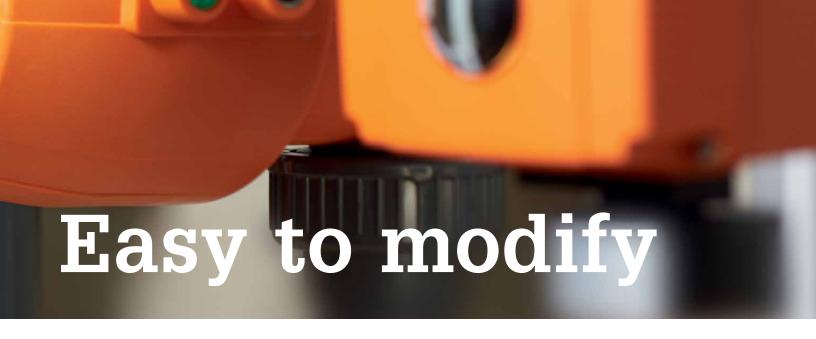
#### Industrial electric butterfly valves Type 145/147

- Type 567 or Type 578 base valve
- PVC, CPVC, PP, ABS or PVDF body
  EPDM, FKM or PTFE seals
- EPDM, FKM or PTFE seals
  100-230VAC or 24VAC/DC
- 100-2
- Standard actuation package
- With actuators EA45-250



#### Midrange electric butterfly valve Type 563 Aqua Valve

- Type 563 base valve
- PVC body with EPDM seals
- 100-230VAC or 24VAC/DC
- 2"-12"
- Standard or economy actuation package
- With actuators EA25-250



## **Actuated butterfly valves**



#### Industrial pneumatic butterfly valve Type 240/244

- Type 567 or Type 578 base valve
- PVC, CPVC, PP, ABS or PVDF body
- EPDM, FKM or PTFE seals
- 2"-12"
- FC, FO or DA
- With actuators PA30-90



#### Midrange pneumatic butterfly valve Type 563 Aqua Valve

- Type 563 base valve
- PVC body with EPDM seals
- FC, FO or DA
- 2"-12"
- · Standard or economy actuation package
- With actuators EA25-250

#### **Actuated ball valves**



#### Industrial pneumatic ball valve Type 230 - 235

- Type 546 base valve
- PVC, CPVC, PP, ABS or PVDF body
- EPDM or FKM seals
- PTFE seats
- 3/8"-4" (d16-d110)
- FC, FO or DA
- With actuators PA11-45



#### Industrial pneumatic 3-way ball valve Type 285 - 288

- Type 543 base valve
- PVC, CPVC, PP, ABS, or PVDF body
- EPDM or FKM seals
- PTFE seats
- 3/8"-2" (d16-d63)
- Horizontal and vertical body styles
- With actuators PA11-21



#### Industrial electric ball valve Type 179 - 184

- Type 546 base valve
- PVC, CPVC, PP, ABS or PVDF body
- EPDM or FKM seals
- PTFE seats
- 100-230VAC or 24VAC/DC
- 3/8"-4" (d16-d110) • With actuators EA25-120
- · Standard accessories package



#### Midrange electric ball valve Type 127

- Type 546 base valve
- PVC, CPVC or ABS body
- EPDM or FKM seals
- PTFE seats
- 100-230VAC or 24VAC/DC
- 3/8"-2" (d16-d63)
- With actuators EA15
- · Limited accessories package



#### Industrial electric 3-way ball valve Type 167-170

- Type 543 base valve
- PVC, CPVC, PP, ABS or PVDF body
- EPDM or FKM seals
- · PTFE seats
- 100-230VAC or 24VAC/DC
- Horizontal and vertical body styles
- 3/8"-2" (d16-d63)
- With actuator EA25
- Standard accessories package



#### Economy electric ball valve Type 104

- Type 546 base valve
- PVC, CPVC or ABS body
- EPDM or FKM seals
- PTFE seats
- 110 VAC, 220VAC or 24VDC
- 3/8"-2" (d16-d63)
- With actuators EA04
- No accessories package

#### **Actuation**

#### **Actuated diaphragm valves**



#### Pneumatic dosing valve Type 604/605

- PVC, CPVC, PP, PVDF
- EPDM, FKM, PTFE/EPDM, PTFE/FKM
- ½" (d20)
- 90 psi (PN6) (combined)
- FC. FO. DA
- · Limited accessories package



#### Pneumatic diaphragm valve **DIASTAR Six**

- PVC, CPVC, PP, ABS
- EPDM, FKM
- ½"-2" (d20-d63)
- 90 psi (PN6) (combined)
- · Limited accessories package



#### Pneumatic diaphragm valve **DIASTAR Ten**

- PVC, CPVC, PP, PPn, PVDF, PVDF-HP, ABS
- EPDM, FKM, PTFE/EPDM, PTFE/FKM
- ½"-2" (DN15-DN50)
- 150 psi (PN10) (combined)
- FC, FO, DA
- · Standard accessories package



#### Pneumatic diaphragm valve DIASTAR TenPlus

- PVC, CPVC, PP, PVDF, PVDF-HP, ABS
- EPDM, FKM, PTFE/EPDM, PTFE/FKM
- ½"-2" (d20-d63)
- 150 psi (PN10) (both sides)
- · Standard accessories package



#### Pneumatic diaphragm valve **DIASTAR Sixteen**

- PVC, CPVC, PVDF, PVDF-HP
- EPDM, FKM, PTFE/EPDM, PTFE/FKM
- ½"-2" (d20-d63)
- 240 psi (PN16) (combined)
- FC
- Standard accessories package
- Water applications only



#### Pneumatic diaphragm valve **DIASTAR 025**

- PVC, CPVC, PP, PVDF, PVDF-HP, ABS
- EPDM, FKM, PTFE/EPDM, PTFE/FKM
- 2½"-6" (DN65-DN150)
- 150 psi (PN10) (both sides)
- FC, FO, DA
- Standard accessories package

#### **Actuated process control valves**



#### Solenoid valve Type 157

- · direct acting pivoted armature valve
- 2/2-wayPVC
- EPDM, FKM
- 230 V AC, 24 V AC, 24 V DC
- DN4-DN8
- 0-60 psi (0-4 bar) depending on dimension



#### Solenoid valve **Type 165**

- pilot assisted solenoid valve
- 2/2-Ways
- PVC, PVDF
- EPDM, FKM
- 230 V AC, 110 V AC, 24 V AC, 24 V DC
- DN15-DN50
- 7-90 psi (0.5 6 bar)



#### Solenoid valve Type 160/161

- direct acting pivoted armature valve
- 2/2- or 3/2-way
- PVC
- EPDM. FKM
- 230 V AC, 24 V AC, 24 V DC
- DN10-DN20
- 0-45 psi (0-3 bar) depending on dimension



#### Solenoid valve **Type 166**

- · direct acting pivoted armature valve
- 2/2- or 3/2-way • PVC, PVDF
- EPDM, FKM
- 230 V AC, 110 V AC, 24 V AC, 24 V DC
- DN3-DN5
- 0-150 psi (0-10 bar) depending on dimension



#### **Pressure regulating valves**



## Pressure reducing valve Type 582

- PVC, CPVC, PP, PVDF
- Spigot or union connection • O-ring Material: EPDM, FKM
- 3/8"-2" (d16-d63)
- 7-130 psi or 4-44psi
- · Gauge and gauge guard optional



#### Pressure reducing valve Type V82

- PVC, PP
- EPDM, EPDM-PTFE-coated
- V82 21/2"-4" (d75 - d110)



#### Pressure retaining valve Type 586

- PVC, CPVC, PP, PVDF
- Spigot or union connection • O-ring Material: EPDM, FKM
- 3/8"-2" (d16-d63)
- 7-150 psi or 4-44psi
- Gauge and gauge guard optional



#### Pressure retaining valve Type V86

- PVC, PP
- EPDM, EPDM-PTFE-coated
- 21/2"-4" V86 (d75 - d110)





#### Monitoring board (EA25 - 250)

- Easy monitoring for on/off actuation
- "Plug & Play" installation
- Cycle time extension
- · Cvcle time monitoring
- · Cycle counter
- · Motor current monitoring



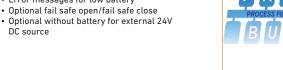
#### Positioner (EA25-250)

- Input 4-20mA or 0-10V
- Output/Feedback 4.20mA
- Motor current monitoring on board
- "Plug & Play" installation



#### Fail-safe return unit (E15 - 250)

- · Integrated battery including charging management
- Error messages for low battery
- Optional fail safe open/fail safe close
- DC source





#### Profibus (EA25 - 250)

- Version DP VO
- M12 connectors for daisy chain
- · Integrated in actuator housing (no external box)
- · Can be used in combination with fail-safe return unit
- Monitoring or positioner can be activated via software



#### Local control box

- Local, remote, off options
- Open, close, off options
- 24VDC or 115 VAC
- Open-close visual indicators

+GF+ 24



#### **Pneumatic accessories**



# Solenoid pilot valve 3/2-way Type PV94

- 230 V, 50 60 Hz 115 V, 50 60 Hz
- 24 V, 50 60 Hz
- 24 V DC
- Pneumatic connection: 1/8" NPT, G1/8, G1/4, G6mm



#### **Local Control Box**

- Local, remote, off options
- Open, close, off options
- 24VDC or 115 VAC
- Open-close visual indicators



#### Electric position feedback Type ER 52-1/ER53-1

- For DIASTAR Ten, TenPlus, Sixteen, 025 Mechanical switches: AgNi or Au
- Inductive switches: NPN/PNP
- With visual position indication



#### Solenoid pilot valve 3/2-way Type PV95

- 230 V, 50 60 Hz 115 V, 50 60 Hz
- 24 V, 50 60 Hz
- 24 V DC
- Pneumatic connection: 1/8" NPT, G1/8, G1/4



#### Solenoid pilot valve Type MNL 532

- 3/2 5/2 combo
- Namur connection
- Body: Aluminium
- 24 V AC, 24 V DC, 48 V AC, 110 V AC, 230 VAC
- Speed control



#### Top mount limit switch

- For pneumatic rotary actuators
- For PA11 90:
- Mechanical switches: AgNi or Au
- Inductive switches: NPN/PNP
- With visual position indication



#### Stroke limiter/manual override

• For DIASTAR all types: Ten, TenPlus, Sixteen, 025



#### Digital electro-pneumatic positioner Type DSR 500

- Mounted on pneumatic control valves
- Linear and rotary actuators
   Control signal 4 20 mA, optional 0-10V
- 24 V DC

# Communication **Products**

Different communication protocols for different needs

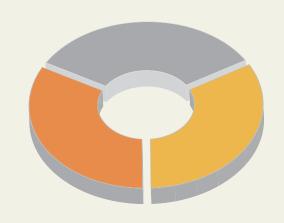
Our automation loop can be managed with various communication technologies and can therefore be seamlessly integrated into existing plant management systems. We offer analogue and digital communication technologies which support on / off or continuous control loops. Benefits are less wiring, faster installations and more efficient diagnostic and parameterization capabilities.



#### Communication

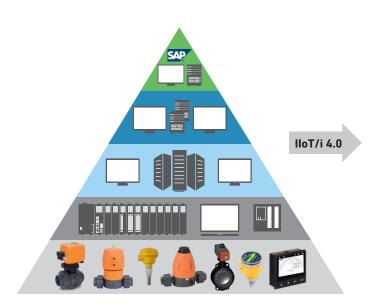
# Communication products

Communication in industry

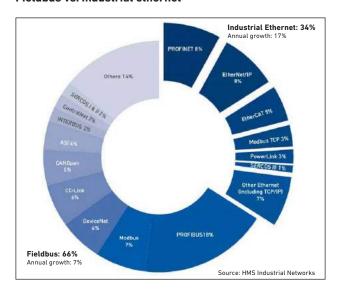


Digital communications with instruments, sensors, and valves is a growing necessity in many applications. The ability to digitally control and gather information from remote devices offers increased flexibility. Internet of Things (IoT), Industrial Internet of Things (IIoT), and Industry 4.0 (i 4.0) are movements in technology that connect individual sensors and actuators to information networks allowing automation and enterprise systems unparalleled access to real time data and information. Already today digital communication is used via different field bus protocols. GF is providing options for Profibus, HART and AS-interface. Converters can be used to transition from one protocol to the other. For the bus communication split please refer to the chart. Very often also standard analogue or digital signals are connected to PLCs to make them accessible for programming. In the future the different layers of system automation will disappear and merge into each other. GF is getting ready to support you in the best way today and in the future.

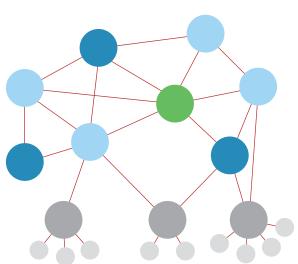
#### **Today** (Automation pyramid/hierarchy)



#### Fieldbus vs. industrial ethernet



Future (Cyper-Physical-Systems)









#### Profibus concentrator type 3-0486

- Connect GF actuated valves and sensors to profibus automation networks
- Supports six S<sup>3</sup>L sensors or relay modules plus a proportional controlled actuated valve
- Four of the (S<sup>3</sup>L) inputs support flow frequency devices for cost effective flow monitoring
- Two of the (S³L) inputs support 4 to 20 mA current loop inputs for connections to third party sensors



#### Profibus (EA25-250)

- Connectable to Profibus DPVO networks
- Using all the advantages of the standard full plastic GF electric actuator



#### Profibus for valve cluster

- Modular version for 3/2-way and 5/2-way valves
- Connection module profibus interface
- 24 V DC
- Optional available module AS-Interface





#### Transmitter type 9900

• Optional module available



#### Non-contacting radar level transmitter type 2290

- Non-contacting
- Robust against most interfering factors such as fumes, light foaming or fluctuations of pressure or temperature
- Display and comprehensive configuration menu
- PP, PTFE or steel antenna enclosures



#### Ultrasonic level sensor type 2260/ ultrasonic level transmitter type 2270

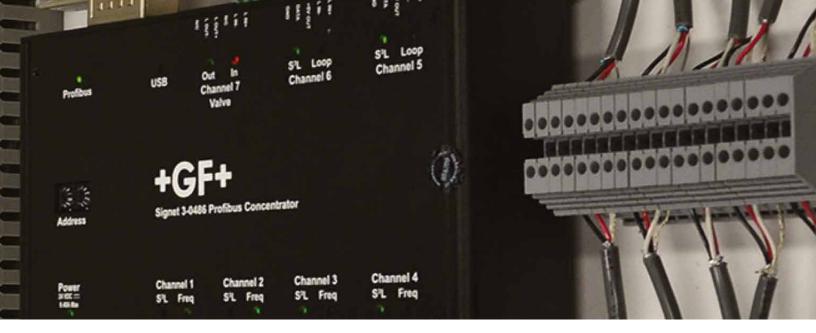
- Non-contacting
- Robust against most interfering factors such as fumes, light foaming or
- fluctuations of pressure or temperature
  Display and comprehensive configuration menu
- PP, PTFE or steel antenna enclosures



#### Guided wave radar level transmitter type 2291

- Measuring range up to 6 m (19.6 ft)
- Accuracy: ± 5 mm (0.2 in)
- PP/PFA coated probes available on request
- Rod & cable versions available
- Minimum ɛr 1.9
- Graphic LCD display
- 4 to 20 mA + HART output

+GF+







#### AS-interface for pneumatic rotary actuators

- Pilot valve 5/2-way
  Electric feedback integrated
  Full plastic housing
  Optical status indicator

- AS interface version 3.0



#### AS-interface for electric actuators

- Integrated control an electric
- FeedbackFor 24 V DC actuators
- For EA11 EA42
- Manual override standard



#### AS-interface for manual valves with feedback

- With integrated feedback
- Ideal for ball valves
- Ideal for butterfly valves
- Ideal for diaphragm valves



#### AS-interface for pneumatic stroke actuators

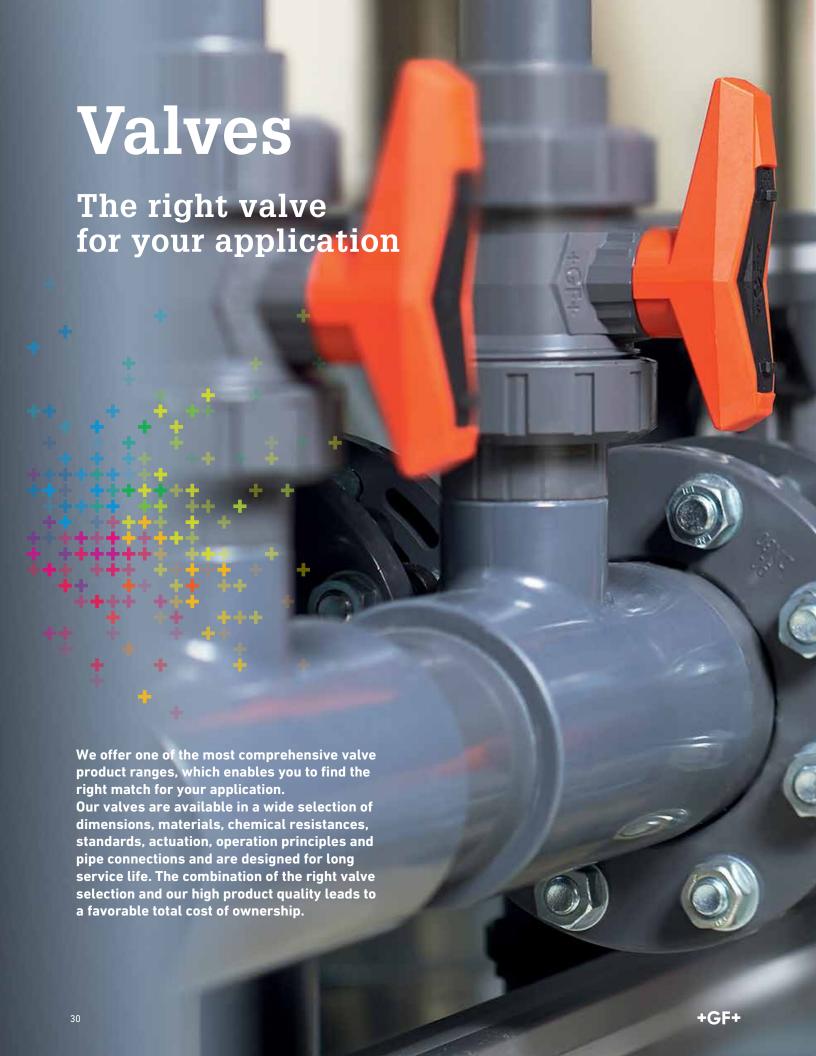
- Pilot valve 3/2-way
- Compact design
- Full plastic housing
- Optical status indicator
- AS Interface Version 3.0



#### AS-interface for sensor with switch output

- With switching output For level switch
- For flow switch
- For pressure switch
- For temperature switch





#### Manual ball valves



#### Industrial ball valve Type 546

- PVC, CPVC, PP, PVDF, ABS
- EPDM, FKM Seat: PTFE, PVDF
- 3/8"-4" (d16 d110)
- Variety of accessory options available
- · Can be actuated and positioned (electric or pneumatic)



#### Vented ball valve Type 546, 375

- · For media with the potential for offgassing
- PVC and CPVC
- EPDM, FKM
- Socket
- Alternative configurations available upon request



#### 3-Way ball valve Type 543

- PVC, CPVC, PP, PVDF, ABS
- EPDM, FKM
- Seat: PTFE, PVDF
- · Horizontal or vertical body styles
- 3/8"-2" (DN10-DN50)
- Up to 150 psi (PN10)
- Variety of accessory options available
- Can be actuated (electric or pneumatic)



#### Linear control ball valve Type 546

- PVC, CPVC, PP, PVDF
- ½"-2" (d16 d63)
- Variety of accessory options available
- Can be actuated and positioned (electric or pneumatic)



#### Midrange ball valve Type 375

- PVC, CPVC
- EPDM, FKM
- Seat: PTFE
- 3/8"-4" (d16 d110)
- 240 psi (PN16)
- No actuation available
- Limited accessories package



#### Metering ball valve Type 523

- PVC, CPVC, PP, PVDF
- EPDM, FKM
- Seat: PTFE
- 3/8"-1/2" (d16 d20)
- Up to 240 psi (PN16)
- 180 degree stroke
- Excellent for chemical metering
- Built-in position scale, 5 degree increments
- Electric actuation available

## Manual diaphragm valves



#### True union diaphragm valve Type 514

- Material: PVC, CPVC, PP, PPn, ABS, PVDF
- Diaphragm: EPDM, FKM, NBR, PTFE
- Size: 1/2" 2" (d20 d63)



#### Spigot diaphragm valve Type 515

- PVC, CPVC, PP, PPn, PVDF, PVDF-HP, ABS
- EPDM, FKM, PTFE
- ½"-2" (DN15-DN50)
- Up to 240 psi (PN16)
- · Lockable handwheel
- Electrical feedback module



#### Flanged diaphragm valve Type 517 (317)

- PVC, CPVC, PP, PVDF, PVDF-HP
- EPDM, FKM, PTFE
- Type 517: ½"-2" (d20-d63) Type 317: 21/2"-6" (d75-d160)
- Up to 232 psi
- Lockable handwheel
- · Optional: electrical feedback module



#### Zero static diaphragm valve **Type 519**

- PP, PPn, PVDF
- EPDM, FKM, PTFE
- ½"-2" (DN20 DN20 : d110 d63)
- Up to 232psi
- Lockable handwheel
- Electrical feedback module

## **Manual butterfly valves**



## Industrial wafer style butterfly valve Type 567

- PVC, CPVC, PP, PVDF, ABSSeals: EPDM, FKM, PTFE/FKM2"-12" (d63cd315)
- 150 psi
- · Lever, Gear



#### Aqua wafer style butterfly valve Type 563

- PVC
- Seals: EPDM 2"-12"
- 150 psi
- · Lever, gear



#### Industrial lug style butterfly valve

- PVC, CPVC, PP, PVDF, ABS
- Seals: EPDM, FKM, PTFE/FKM
- 2"-12" (d63-d315)
- 150 psi
- Lever, gear

#### **Accessories**



#### Multifunctional modules

- Multi functional module
- Accessory for ball valves 546/543
  Limit switch AgNi, Au, Namur,
- NPN. PNP
- Interface for electric pneumatic
- actuators



#### Electrical feedback module

- Electrical feedback module
- Accessory for (manual) diaphragm valves
- Limit switch AgNi or Au
- Self adjusting mechanism



#### Integrated position indicator

- Integrated position indicator switches
- Accessory for butterfly valves 567/578
- · Limit switch AgNi, AU, Namur, NPN, PNP



#### Labelling ball valve

· Labelling system for ball valve 546/543/523

## **Process control valves**



#### Check valve Type 561/562

- PVC, CPVC, PP, PVDF, ABS
- EPDM, FKM
- 3/8"-4" (d16-d110)
- Up to 232 psi Type 562 with spring



#### Ventilating valve/ Ventilating and bleed valve Type 591/595

- PVC, CPVC, PP, PVDF, ABS
- EPDM, FKM
- 3/8"-4" (d16-d110)
- Up to 232 psi
- Type 595 with spring
- Float PP / PVDF



## **Process control valves**



## Angle seat check valve Type 303/304

- PVC, ABSEPDM, FKM½"-3" (d16-d90)
- 150 psi



#### Line strainer Type 305/306

- PVC, CPVC, ABS, PP, PVC
- transparent
   EPDM, FKM
- ½"-3" (d20-d90) 150 psi
- Screen: PVC, PP, Stainless steel



#### Water jet suction pump (eductor) Type P20

- PVC, PP, PVDF
- EPDM, FKM 3/8"-3" (d16-d90) 150 psi



#### Wafer check valve **Type 369**

- PVC, PP, PVDF EPDM, FKM
- 1¼"-12" (d40-d315) 150 psi



# Gauge guard Type Z500/501

- True plastic design
   PP, PVDF
   EPDM, EPDM-PTFE-coated
   ½" or ½" (d12 or d20)

- 150 psiWith or without pressure gauge

# Value Added Services

# From planning support to implementation – our specialists are always close by

As a leading provider of piping systems in plastic and metal, we offer our customers not only reliable products, but also a large package of services. Our support ranges from a comprehensive technical manual or the extensive CAD library to an international team of experts, who work closely together with local sales companies. And when it comes to implementing a project, our customers additionally benefit from a wide range of training courses, either on site or in our modern Training Centers worldwide.



#### **Technical Support**

Technical support and material selection are key factors for a successful installation. A team of specialists individually support our customers around the world.



#### **Chemical Resistance**

Our specialist teams have decades of experience in the area of chemical resistance. They can offer individual support and consult in selecting the right material.



#### **Training Courses**

GF Piping Systems offers a wide range of training courses that allow participants to gain confidence in working with our products and proven jointing technologies.



#### **On-site Training**

Our experts are available to support our customers locally and conduct training in diverse fusion and joining techniques on location.



#### **CAD Library**

The database comprises over 30,000 drawings and technical data regarding pipes, fittings, measurement and control technology, as well as manual and actuated valves.



#### **Online and Mobile Calculation Tools**

Our numerous, multilingual online tools and mobile applications are very useful for on-site configuring and calculating.



#### **Technical Manual**

We have documented the extensive know-how of GF Piping Systems in planning and installing piping systems in our technical manual for customers.



#### Customizing

The focus of these teams is to manufacture custom parts for special systems. In addition, a variety of special solutions can be produced in small series.

# Centers of excellence

# Competent support for you

Competent support offered by all GF sales companies and our Centers of Excellence (CoE)



#### \* Easy access support

Quick, reliable and competent service is as important as a comprehensive product offering

We ensure that our staff in all countries has state-of-theart knowledge of products, applications and technology. As a result, our local GF automation specialists can support you professionally in choosing the right products and defining a system which truly satisfies your needs, in addition to commissioning and after-sales service. Furthermore, GF is setting up a global network of centers of excellence (CoE) for automation where dedicated teams for sales, service and automation training are available to you.

#### Value Added Services

From planning support to implementation – our specialists are always close by

As a leading provider of piping systems in plastic and metal, we offer our customers not only reliable products, but also a large package of services. Our support ranges from a comprehensive technical manual or the extensive CAD library to an international team of experts, who work closely together with local sales companies. And when it comes to implementing a project, our customers additionally benefit from a wide range of training courses, either on site or in our modern training centers worldwide.

For more information on our automation system please contact our local sales companies and our sales representatives. www.gfps.com



# **GF Piping Systems**

Our sales companies and representatives ensure local customer support in over 100 countries.



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