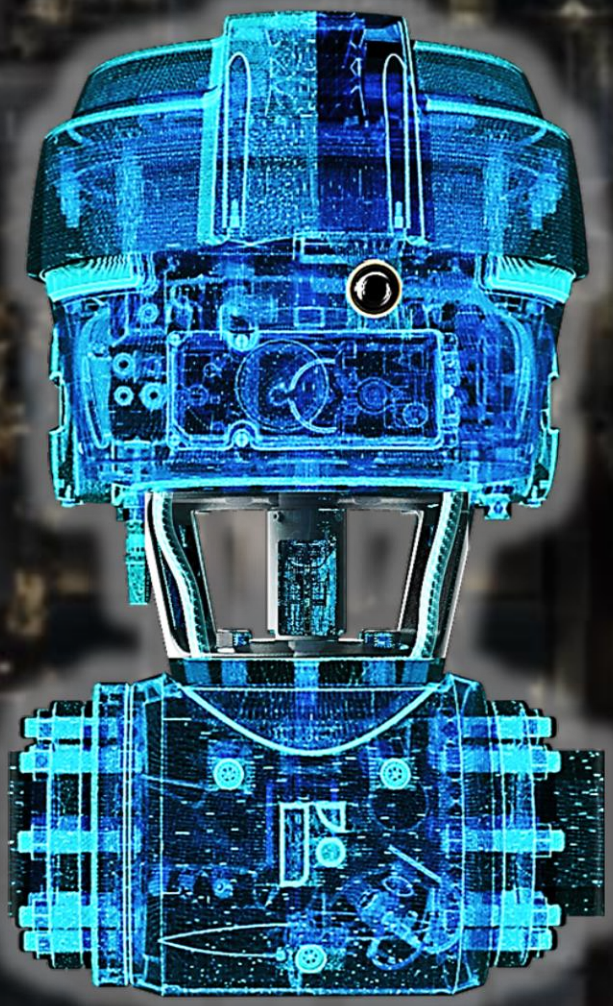
WELCOME TO THE WORLD OF

FOCUS-ON



FOCUS-1 Case Studies

Enabling simplification across the automation pyramid to create value, in brownfield today and greenfield tomorrow

FOCUS-ON VoF

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Customer Case Studies : 2021.12.12

CASE STUDY 1 - SRC B.V.

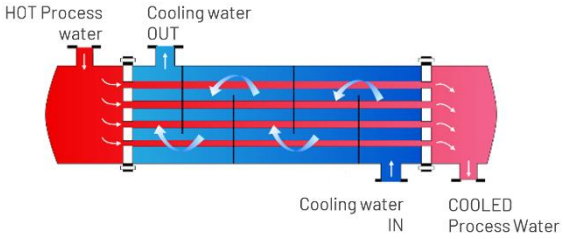
FOCUS-1 shines light on a process by integrating measurement and control

APPLICATION

Temperature control of process water in heat exchanger

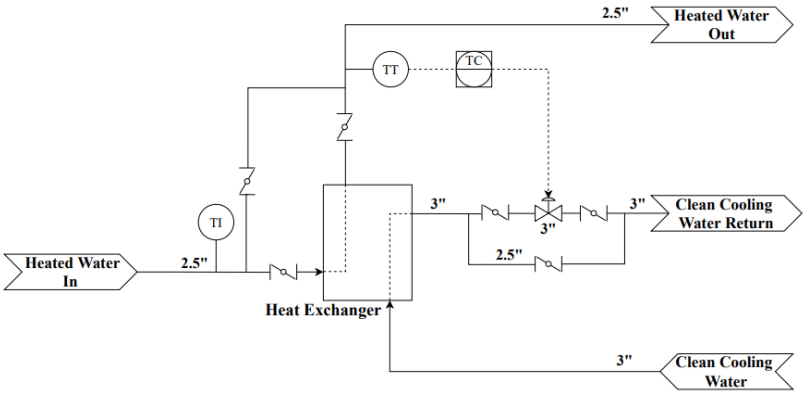
Typical operating conditions for the FOCUS-1 device

Volumetric flow	Q	8,0 - 10,0	m^3/hr
Upstream pressure	P1	4,0	barg
Differential pressure	ΔP	3,0	bar
Temperature	T	55,0	ºC
Density	ρ	1000,0	kg/m^3
Viscosity	η	0.547	mPas



PROCESS LOOP as is today

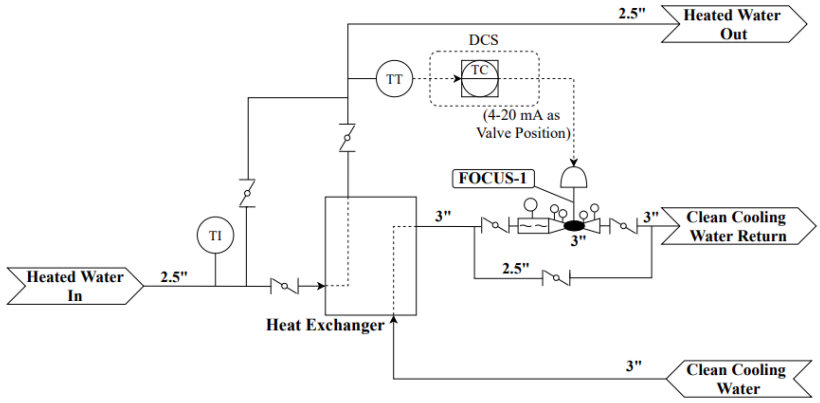
Current setup has a valve that does not control well. In traditional control loops, the temperature reading of cooled process water is used to calculate the necessary flow of cooling water, which in turn is converted into the optimum setpoint given to the valve. However, the constant change in process water (inlet) temperature requires a continuous adjustment of valve setpoint leading to an unstable control behavior.



FOCUS-1 shines light on the process

Replacement of a traditional valve with a DN80/PN40 FOCUS-1 device did not require changing any PID settings as the control characteristics of the device are the same as a typical globe control valve when using % opening as a setpoint value. This allowed SRC to quickly integrate the product in the loop.

But the real benefit of this device is its innovative integration of various measurement functions within the same housing. The additional information on cooling water temperature and flow rate allowed SRC to be able to, for the first time, observe the process behavior considering changing temperature (inlet) of process water. The additional parameters were used to optimize the PID tuning in DCS.



FOCUS-1 (DN80 - PN10/40) has been innovated also keeping brownfields installations in mind

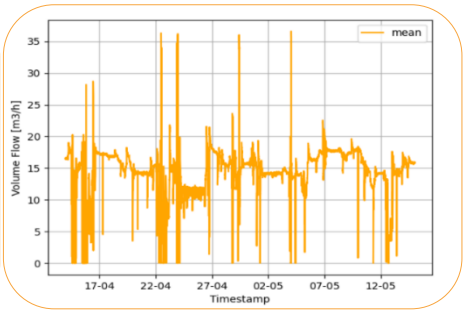
- Standard face-to-face length
- Same flow coefficient (Cv) as valve
- Standard control (%) philosophy
- Visual check of open position

FOCUS-1 is your "Upgrade Guarantee"

- Multi-Parameter device
- For flow control
- For measurement

BUT THERE IS MORE...

After analyzing monthly reports generated from the FOCUS-1 process and device data, it was observed that the process required higher cooling water flow rates than the expected maximum flowrate to achieve the desired temperature set-point.

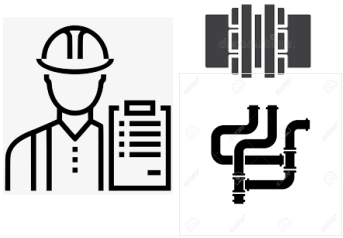


FOCUS-1 Journey starts early in the plant to drive maximum value.

1 Integration of components

- allows reduced engineering and specification effort
- less flanges, shorter piping

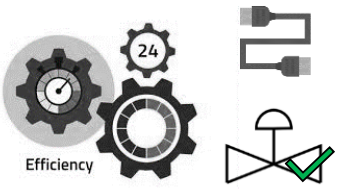
→ up to 33% savings vs. traditional solution



2 Communication matters

- novel control philosophies reduce I/O & PLC/PID costs
- a valve 'finally' controls flow

→ better control quality and loop efficiency



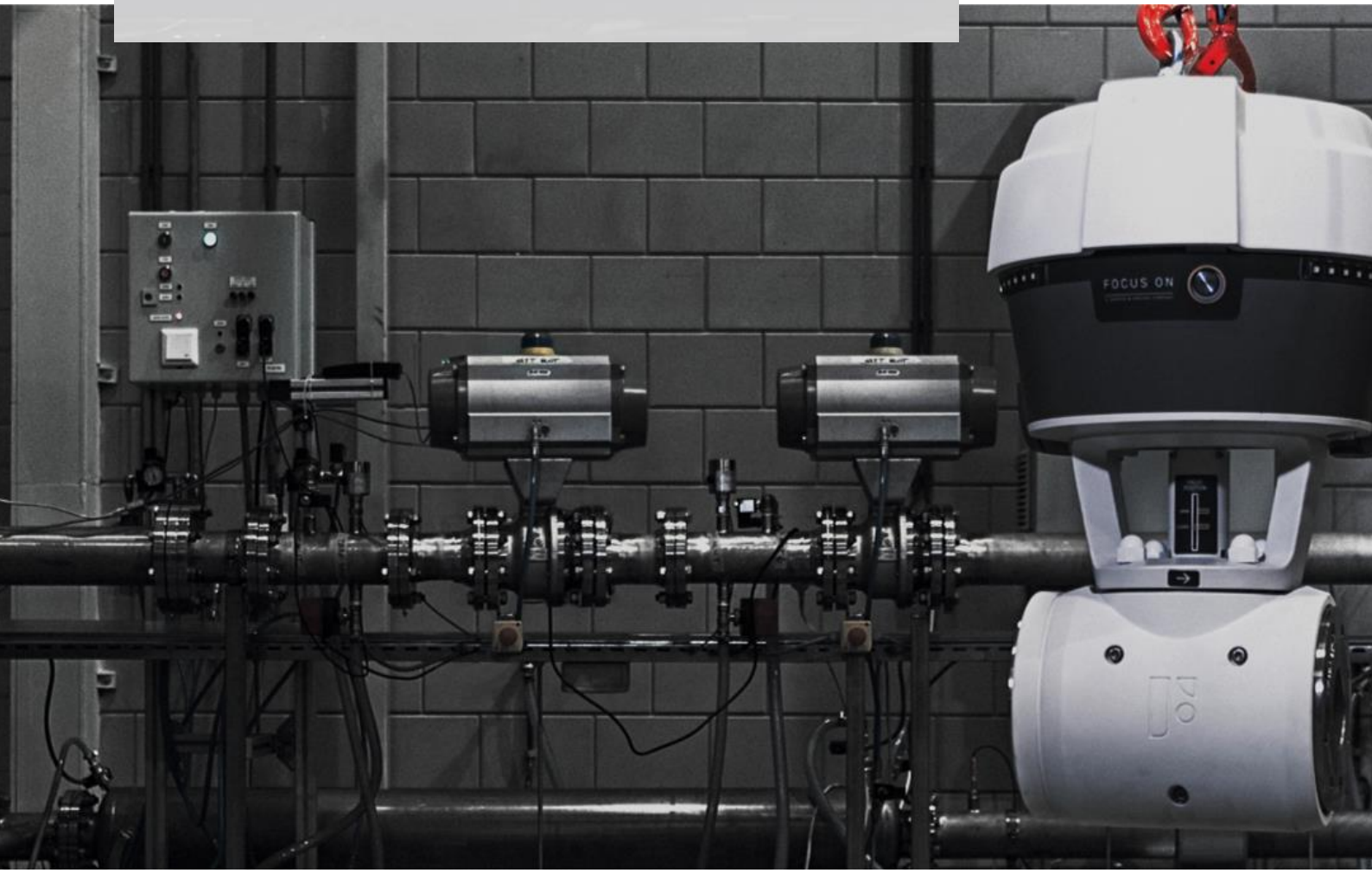
3 Higher transparency on field

- customized alarms
- digital models need for mechanical redundancies in cases

4

- real-time view of device & process

→ powerful information enables optimization



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